AGM. ARY

VOLUME XVII NUMBER 4

NOV 18 1935

JOURNAL of FARM ECONOMICS

NOVEMBER, 1935

CONTENTS

Farm Mortgages and the Government. *Wm. G. Murray* 613

Methods of Determining Tariff Effectiveness. *Henry Schultz* 625
A Reply. *Roland R. Renne* 642

Agricultural Economics in Italy. *Arrigo Serpieri* 646

The Field of Agricultural Data. *W. H. Ebling* 659

Tax Relief through Expenditure Control. *H. L. Lutz* 669

Studies of Local Government. *M. P. Catherwood* 682
Discussion. *C. H. Hammar* 693
Discussion. *G. S. Klemmedson* 695

Social Effects of Land Division. *T. Lynn Smith* 702

Social and Economic Significance of Subsistence Homesteads
From an Economist's Point of View. *Wm. E. Zeuch* 710
From a Sociologist's Point of View. *C. C. Taylor* 720

Notes:
Creamery Operating Efficiency. J. M. Tinley 732
Factors Affecting Butter Consumption. J. B. Roberts 735
The Direct Marketing Controversy. F. L. Thomsen 738
Cooperative Trends in the Mid West. Frank Robotka 741
Comments on Agricultural Protectionism. E. Laur 748

Books Received 754

Book Reviews 755

News Items 773

Program for Annual Meeting 783

Annual Index 789

Published Quarterly during the months of February, May, August and November by
THE AMERICAN FARM ECONOMIC ASSOCIATION
Publication Office: 450 Ahnaip Street, Menasha, Wis.

Executive Office: Asher Hobson, Secretary-Treasurer,
University of Wisconsin, Madison, Wis.

Editorial Office: O. B. Jesness, Editor,
University Farm, St. Paul, Minn.

Price: $5 per year, this issue $1.25

Entered as second class matter at the post office at Menasha, Wis. Acceptance for mailing at a special rate of postage provided for in the Act of February 28, 1925, paragraph 4, section 412, P. L. & R., authorized November 27, 1931.

The American Farm Economic Association

President—W. E. Grimes, Kansas State College

Vice-Presidents—Leland Spencer, Cornell University; W. C. Waite, University of Minnesota.

Secretary-Treasurer—Asher Hobson, University of Wisconsin.

PAST PRESIDENTS

William J. Spillman	1910–12
George F. Warren	1913
Daniel H. Otis	1914
Andrew Boss	1915
Harcourt A. Morgan	1916
Henry W. Jeffers	1917
George A. Billings	1918
John R. Fain	1919
Henry C. Taylor	1920
Walter F. Handschin	1921
Benjamin H. Hibbard	1922
Thomas P. Cooper	1923
Edwin G. Nourse	1924
Milburn L. Wilson	1925
Thomas Nixon Carver	1926
J. I. Falconer	1927
L. C. Gray	1928
H. E. Erdman	1929
H. C. M. Case	1930
O. C. Stine	1931
J. D. Black	1932
H. R. Tolley	1933
W. I. Myers	1934

THE JOURNAL OF FARM ECONOMICS, EDITORIAL STAFF

Editor—O. B. Jesness, University of Minnesota.

Associate Editors—H. E. Erdman, University of California.
F. F. Lininger, Pennsylvania State College.
S. W. Mendum, Bureau of Agricultural Economics.
H. B. Price, University of Kentucky.
W. C. Waite, University of Minnesota.

Published at 450 Ahnaip St., Menasha, Wisconsin. Inquiries regarding membership and general affairs of the Association should be addressed to the Secretary-Treasurer, Madison, Wis. Manuscripts or inquiries concerning the Journal should be addressed to the Editor or any one of the Associate Editors.

JOURNAL
of
FARM ECONOMICS

VOL. XVII NOVEMBER, 1935 No. 4

FARM MORTGAGES AND THE GOVERNMENT[1]

WILLIAM G. MURRAY

In the two-year period ending May 1, 1935, the Farm Credit Administration enlarged its holdings of farm mortgages from approximately 12 to 34 per cent of the total outstanding in the country. And with legislation by Congress in 1935 conducive to still more expansion by the Farm Credit Administration, a continued rise is likely to take place. This increase brings up the question of how far the Farm Credit Administration is going in taking over the farm mortgages of the United States. In addition, it calls for an examination of federal lending activities to determine in what areas the shift to federal loans has been most pronounced. Finally, there is the question of what the future policy of the government will be in subsidizing farm mortgage credit. Underlying the unprecedented lending program of the Farm Credit Administration since 1933 is the possibility that this organization is running into the danger of becoming the creditor of too many farmers.[2]

Federal Land Bank Loans in the United States

Before the passage of the Federal Farm Loan Act of 1916 farm mortgages in the country were held for the most part by private agencies. Up to this time the government, despite the frontier demands for cheap credit, had not seen fit to sponsor any farm mortgage agencies. As soon as the act was passed, however, farmers hastened to apply for loans from the twelve new federal land banks.[3]

[1] Paper No. 322 of the Journal Series of the Minnesota Agricultural Experiment Station. This paper was prepared by the author while filling a temporary appointment at the University of Minnesota.

[2] For an able treatment of this problem see Benedict, M. R., "Some Policy Problems in a Federal Farm Credit Program" JOURNAL OF FARM ECONOMICS, January 1934, pp. 45-54.

[3] In the Act of 1916 Congress provided for two systems, federal land banks and joint stock land banks. Since the joint stock land banks are privately owned agencies and since the Emergency Farm Mortgage Act of 1933 requires their liquidation, they will not be included in the discussion which follows of the federal land bank system.

At the beginning of 1919, after a year and one-half of actual operation, the federal land banks had 156 million dollars in outstanding loans. (Table 1.) Rapid expansion in lending by the federal land banks continued, with one significant interruption, from their organization to 1925. The interruption, a suit contesting the constitutionality of the system which was carried unsuccessfully to the United States Supreme Court, retarded lending activities during 1920 and 1921. Early in 1920 the federal land banks held mortgages representing approximately four per cent

TABLE 1.—TOTAL FARM MORTGAGE DEBT ESTIMATES; OUTSTANDING MORTGAGE LOANS OF FEDERAL LAND BANKS; AND FEDERAL LAND BANK LOANS AS PER CENT OF TOTAL MORTGAGE DEBT. 1919–1935

Year as of January 1	Estimated Total Farm Mortgage Debt[a] (In millions of dollars)	Federal Land Bank Mortgage Loans Outstanding[b] (In millions of dollars)	Federal Land Bank Loans as Per Cent of Total
1919		156	
1920	7,858	294	3.8
1921		350	
1922		433	
1923		639	
1924		800	
1925	9,361	928	9.9
1926		1,006	
1927		1,078	
1928		1,156	
1929		1,194	
1930	9,241	1,198	13.0
1931		1,188	
1932		1,163	
1933	8,500	1,117	12.1
1934	8,000[c]	1,284[c]	16.1
1935	7,770[d]	2,513[e]	32.3

[a] U. S. Department of Agriculture, "The Farm Debt Problem." House Document No. 9, 73rd Congress, 1st Session, 1933, p. 5.
[b] Annual Report of the Farm Credit Administration, 1934, p. 91.
[c] Hearings before the Subcommittee of House Committee on Appropriations, 73rd Congress, 2nd Session, 1934, p. 679.
[d] Estimate based on Iowa and U. S. mortgage debt figures 1920–35, for which see Bul. 328, Iowa Agr. Exp. Sta. p. 10, and "The Farm Debt Problem" op. cit. The Iowa farm mortgage debt for Jan. 1, 1935 of $924 million is considered as approximately 12% of the U. S. total. This gives a U. S. total of $7,770 million. On Jan. 1, 1928, the Iowa debt total was estimated at 14.8% of the U. S. total ("Farm Debt Problem" page 7). However, in the five-year period ending in March 1934 forced sales involved 23.5% of the land in Iowa and only 13% of the land in the U. S. (Farm Real Estate Situation" Circular 309 by B. R. Stauber, and Circular 354 by B. R. Stauber and M. M. Regan, U.S.D.A., Washington, D. C.)
[e] Total includes Land Bank Commissioner loans along with federal land bank loans.

of the total mortgage debt in the country. Five years later, although the total mortgage debt of the country had increased, these same banks had increased their percentage of the total to ten per cent. Ample reason for the popularity of federal loans is to be found in the circumstances of the agricultural depression in 1921 and the years following. Local banks and private investors who had assisted in financing the farmer during the boom years 1918-1920 were anxious to obtain cash on their mortgages. And, as it happened, the federal land banks were ready and willing to take part in the refinancing by lending on first mortgage security.

In the next five-year period, 1926-30, only a small change occurred, the percentage of the total debt held by the federal land

banks rising from 10 to 13. The depression was not as serious in these years. Other mortgage agencies, notably insurance companies, were engaging in a competitive struggle for good farm loans. In fact, the competition in Iowa was so intense that farmers were solicited to borrow. Back of this competitive situation was not only a surplus of investment funds but also a practice followed by loan companies of charging a commission equal to a fixed percentage of the amount loaned, a practice which placed a premium on large loans. Recently a forward step has been taken by the Farm Credit Administration and several insurance companies in recognizing the desirability of paying salaries rather than allowing commissions to those responsible for making loans.

Another reason for the small increase in federal land bank loans in the late twenties was the adoption by the banks of a more conservative loan policy in high risk areas. More will be said about this later, but it should be pointed out here that expansion in the years prior to 1925 had been unusually rapid in certain high interest rate areas. A wave of foreclosures followed which brought about the shift to a more conservative loan policy.

Between 1930 and May 1933, the federal land banks followed an ultra conservative loan policy and other lenders almost completely retired from the field. What loans were made were relatively small and of little assistance to the farmer. Farm prices were dropping rapidy and loan agencies had their hands full with delinquencies and foreclosures during this period.

With the passage of the Emergency Farm Mortgage Act of May 1933 providing for Land Bank Commissioner loans in addition to funds for the federal land banks, farm mortgage lending by the federal system expanded at a rapid rate. During the months that followed almost all lenders were anxious to cash their mortgages through the combined loans of the federal land banks and the Land Bank Commissioner (both loans considered in this paper as part of the federal system). After two years of this refinancing, the federal system held over one-third of all the farm mortgage debt in the country.

Percentage of Total Mortgage Debt Held by Federal System in Different Regions

A striking feature of federal lending has been the unequal distribution over the country. The percentage which federal loans represent of mortgage loans by all agencies has been computed for four sections of the country at five-year intervals during the

period 1920-35. The results of these computations are shown in Table 2.

As early as 1920 a concentration of loans by the federal land banks in the South and West is evident. In 1925 this tendency is even more apparent. Expansion was most rapid in the Spokane and New Orleans federal land banks, the Spokane bank serving the States of Washington, Oregon, Idaho, and Montana, and the New Orleans bank the States of Louisiana, Mississippi and Alabama. The difficulties of the Spokane bank following its liberal

TABLE 2.—PERCENTAGE OF THE TOTAL FARM MORTGAGE DEBT REPRESENTED BY FEDERAL LAND BANK AND LAND BANK COMMISSIONER LOANS OUTSTANDING, BY REGIONS, 1920–35*
(Year as of January 1.)

Region	1920	1925	1930	1935
Northeast	2.9%	9.4%	10.9%	22.3%
North Central	2.4	5.7	8.7	27.7
South	7.4	21.5	26.0	49.5
West	5.4	15.0	14.2	32.2
Total	3.8	9.9	13.0	32.3

* States included in each region are as follows:
Northeast: Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey and Pennsylvania.
North Central: Ohio, Indiana, Illinois, Michigan, Wisconsin, Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska and Kansas.
South: Delaware, Maryland, Virginia, West Virginia, North Carolina, South Carolina, Georgia, Florida, Kentucky, Tennessee, Alabama, Mississippi, Arkansas, Louisiana, Oklahoma and Texas.
West: Montana, Idaho, Wyoming, Colorado, New Mexico, Arizona, Utah, Nevada, Washington, regon and California.

lending policy are given in detail in the Ninth Annual Report of the Federal Farm Loan Board for 1925.

During the years between 1925 and 1930, the states in the South gained in a few more instances than they lost. In the West the percentage declined because of a striking drop in the Spokane area. But one of the outstanding developments was in the north-central area where a small but none-the-less important increase took place. In Illinois, the federal land bank loans increased from 3.4 per cent to 8.3 per cent of the total mortgage debt. Similar expansion occurred in some of the other neighboring states. When it is realized that the five states of Illinois, Indiana, Iowa, Nebraska, and Minnesota account for roughly one-third of the entire farm mortgage debt in the United States, the significance of the continued pickup of business in this area becomes apparent. However, in spite of this tendency for federal land banks to obtain more loans in the Middle West, the situation in 1930 remained one in which, for the most part, federal land bank loans were still a large factor in the South and West, and only a relatively small part of the outstanding debt in the north-central and northeastern areas.

Between 1930 and 1935 not only was there a tremendous percentage increase in federal holdings from 13 to 32 per cent, but there was also an almost proportionate increase in all sections. In the South an interesting development was the approach to a uniform proportion of total mortgage loans advanced by the federal system in the individual states. While the concentration in the South was evident in previous years, the percentage varied considerably between states. In 1935, on the other hand, federal loans constituted in almost all southern states between 40 and 60 per cent of total debt. Another fact of significance is the substantial gain in the northcentral area, a gain somewhat larger than that in the northeastern section.

Why the Heavy Concentration in the South and West?

Intensive lending in the South and West by the federal land banks can be explained readily by reference to interest rates prevailing in these states prior to passage of the Farm Loan Act of 1916, and to the interest rate policy of the act itself. The act specified six per cent as the maximum rate that could be charged borrowers, allowed the banks a uniform operating margin, and in addition made the banks jointly liable for all losses of any bank. The result was practically a uniform interest rate on federal land bank loans all over the country when previously average rates on farm mortgage loans had varied from 5.3 in New Hampshire to 9.7 per cent in New Mexico.[4]

As might be expected, the federal land banks obtained a larger share of the mortgage business in those states where interest rates had been high. This is evident below in the classification of states by farm mortgage interest rates in 1915. The states are divided into two groups, one consisting of the 24 states with interest rates on or below the medium average rate of 6.3 per cent and the other of the 24 states with interest rates higher than the average.

Low Interest Rate States[a]

1. New Hampshire	9. Rhode Island	17. Kansas
2. New York	10. Maryland	18. Virginia
3. New Jersey	11. Connecticut	19. Missouri
4. Pennsylvania	12. Illinois	20. West Virginia
5. Vermont	13. Wisconsin	21. Michigan
6. Massachusetts	14. Indiana	22. Minnesota
7. Delaware	15. Ohio	23. Nebraska
8. Iowa	16. Maine	24. North Carolina

[4] Thompson, C. W., "Cost and Sources of Farm Mortgage Loans in the United States." Bul. No. 384, U. S. Dept. of Agr., Washington, D.C. 1916, page 2. Interest rates in existence prior to 1917 were selected because they were not affected by the uniform rates of the federal land banks.

High Interest Rate States

1. North Dakota	9. Mississippi	17. Utah
2. South Dakota	10. Louisiana	18. Alabama
3. Tennessee	11. Idaho	19. Florida
4. California	12. Colorado	20. Arkansas
5. Georgia	13. Oklahoma	21. Arizona
6. Oregon	14. Kentucky	22. Wyoming
7. South Carolina	15. Texas	23. New Mexico
8. Washington	16. Montana	24. Nevada

[a] Bul. 384—*op cit.* States are listed in order beginning with lowest interest rate with the exception of Nevada for which no interest rate was given.

No difficulty should be experienced in noting the similarity between the states with high interest rates, and the states in which the federal land banks have obtained a large percentage of the farm mortgage business.

A more exact measure of the lending operations of the federal banks in the low- and high-interest rate states is contained in

TABLE 3.—FEDERAL LAND BANK LOANS AS PERCENTAGE OF TOTAL MORTGAGE DEBT OUTSTANDING, IN 24 LOW- AND 24 HIGH-INTEREST STATES AND IN THE UNITED STATES AS A WHOLE. 1920–1935.

Year as of January 1	Per Cent of Total Debt in 24 Low Int. States[a]	Per Cent of Total Debt in 24 High Int. States[a]	Per Cent of Total Debt held in all States
1920	2.4%	6.1%	3.8%
1925	6.3	16.9	9.9
1930	9.0	19.6	13.0
1935—Jan. 1	26.7	42.0	32.3
May 1	28.9	44.7	34.6

[a] The separation of the 48 states into two groups of high and low interest rates is based on farm mortgage interest rates reported in U.S.D.A. Bul. 384. 1916, p. 2. For other references used see footnotes to Table I.

Table 3. Here the total mortgage debt in the high interest area is compared with the amount of federal loans in this area, and the same procedure followed for the low interest group of states.

The change to a more conservative lending policy by the federal land banks following 1925 is evident in the figures in Table 3. Up to this time expansion in the high-interest areas was unusually rapid compared with that in the low-rate areas. The fact that in 1925 the federal banks held 17 per cent in the one and only 6 per cent of the total debt in the other area is a convincing bit of evidence. Following 1925 a more stringent loan policy may be assumed to have been instituted because the rise settles down to a pace almost uniform in the two areas. Between 1925 and 1930 the federal land banks enlarged their mortgage holdings in both regions equal to about three per cent of the total debt in each of them.

Sufficient reason for the change in loan policy can be found in the foreclosure experience of the federal land banks in the

high interest areas where expansion had been rapid up to 1925. Three of the banks, Spokane, New Orleans and Columbia, up to the close of 1925, had acquired a total of 1,316 farms or slightly more than one-half of the 2,551 farms acquired by all 12 banks.[5] Each of these three banks served territory almost entirely in the high-interest region. The states served by Spokane and New Orleans were mentioned previously, those served by Columbia, S.C., are North and South Carolina, Georgia and Florida.

A direct connection between high interest and high risk can be established not only by foreclosure evidence but also from records of weather variations and tax delinquency. However, it should not be assumed that risk is the only factor making for high interest. Other factors enter in, some of which will be considered later. Subject to certain qualifications, therefore, we can say that in general the federal land banks in the early years obtained the largest percentage of the loan business in the high-risk areas.

In the five-year period ending in 1935 a slight tendency to take on again more of the debt in the high- than in the low-interest areas is apparent, an increase represented by 22.4 per cent of the debt in the high- and 17.7 per cent in the low-interest area. It should be remembered, on the other hand, that in this period the Lank Bank Commissioner loans appear for the first time, these being available on security not eligible for federal land bank loans. In the light of the potential expansion of these Land Bank Commissioner loans in high-risk areas it is significant that actually the Farm Credit Administration obtained almost as large a slice of the loan business in the low-risk as in the high-risk states.

Another slant on the high- and low-interest areas is obtained from an examination of the total mortgage debt in the two areas. (Table 4.)

In each of the four years for which information is shown, approximately two-thirds of the United States farm mortgage debt existed in the states with below-average interest rates. But an entirely different situation is found by dividing the total federal loans between the two groups of states. These figures emphasize two major points in federal lending policy, the heavy concentration of loans in high-risk areas during the early years, and the gradual shift toward larger volume in the low-risk areas after 1925. As indicated by recent figures, the federal system has 54 per cent of their loans placed on land in the low-interest states.

[5] Ninth Annual Report of the Federal Farm Loan Board. 1925. Page 47.

In contrast to this, on the other hand, is the pertinent fact that 64 per cent of the mortgage debt in the country is located in this area of low interest rates.

Insofar as low-interest states are states of low risk, it is undoubtedly a source of satisfaction to Farm Credit Administration officials to note that over one-half of their loans are now in the low-interest area. A continuation of this trend may well be expected in that the federal system, limited as it is to loans on farms operated or managed by the owner, has probably obtained a large

TABLE 4.—DISTRIBUTION OF TOTAL FARM MORTGAGE DEBT AND FEDERAL LAND BANK LOANS BETWEEN THE 24 HIGH- AND 24 LOW-INTEREST RATE STATES AT FIVE YEAR INTERVALS, 1920–1935[a]

Year as of January 1	Total U. S. Mortgage Debt			Federal Land Bank Loans		
	States Below Average	States Above Average	All States	States Below Average	States Above Average	All States
1920	63%	37%	100%	40%	60%	100%
1925	66	34	100	41	59	100
1930	64	36	100	45	55	100
1935—Jan. 1	64	36	100	53	47	100
May 1	64	36	100	54	46	100

[a] Data on federal land bank outstanding loans by states included in the annual reports of the Federal Farm Loan Board and the Farm Credit Administration. For additional references used see footnotes to Table I.

share of the available loans in the South as indicated in Table 2 and is now finding the Central West and the East the principal regions where any considerable expansion is possible.

Interest Rates and Risk

Loans in high-interest areas, it should be emphasized, do not necessarily involve high risk. In the first place interest rates may have been high because the region was in the early stages of development or because it was located a long distance from a money center. Secondly, the small size of loans in some areas may be the cause of high interest rates because the cost of making these loans is large in proportion to the amount loaned. Thirdly, to the extent that the appraisals in high-risk regions have been reduced to compensate for the risk a certain element of the uncertainty may have been removed. However, if the uncertainty is the occurrence of a total crop failure or the possibility of the land becoming submarginal when prices decline below a given level, then no matter how conservative the appraisal any loan at all may have more risk than a loan in a low-interest, low-risk area.

If the question is raised then as to the risk involved in loans in high-risk areas, an answer would involve a study of existing

risk and the extent to which appraisals have discounted this risk. Such a study would be particularly valuable because through it an estimate could be obtained of the relative importance of risk and of other causes like distance from money centers as factors operating in high-interest regions. An excellent approach to an investigation of this type exists in the loan experience records of the federal land banks.[6] Earlier a reference was made to the large number of farms acquired by the three federal land banks serving high-interest areas, this line of attack if carried forward in detail for the whole country might be extremely helpful not only in revealing the nature of risk in previous loans but also in the formulation of present and future lending policy.

What of the Future?

With one-third of the nation's mortgage debt now tied up with the federal land bank system, future policy becomes a matter of importance. One of three courses of action appears likely. First, an effort might be made to turn the system over to the farmer borrowers, a move which would make the system truly cooperative.[7] Secondly, the government might retire half way, reestablish certain cooperative features but exercise sufficient supervision to insure the soundness of the system and stand ready to provide emergency credit if necessary. Finally, the federal system can become firmly intrenched as a governmental agency retaining few cooperative characteristics and containing important governmental subsidies.

A Cooperative System

One of the leading tenets of the Farm Loan Act was the establishment of cooperative farm loan associations. These associations were, through the stock liability of the members, expected to serve as an effective means of preventing bad loans. An association, according to the argument, would not endorse a loan if it considered the borrower a poor risk nor would it endorse a loan for more than it thought a safe amount. Moreover, in case of difficulties an effort would be made by the members of the association to keep all loans in good standing otherwise the stock of the members, equal to 5 per cent of their loans, would be impaired. In some respects, the argument sounds as convincing as that for

[6] For studies of federal land bank loan experience see Hill, F. F., "An Analysis of the Loaning Operations of the Federal Land Bank of Springfield from Its Organization in March 1917 to May 31, 1929," Cornell University Agr. Exp. Sta. Bul. 549, 1932. Also, Mereness, E. H. "Farm Mortgage Loan Experience in Southeast Alabama," Alabama Agr. Exp. Sta. Bul. 242, 1935.

[7] For a discussion pointing out the desirability of such a policy see Sparks, "History and Theory of Agricultural Credit in the United States." Crowell, New York, 1932. Chaps. 10 and 33.

the cooperative fire insurance associations which have been so successful in certain areas.

Two handicaps of a serious character, however, have been encountered by the national farm loan associations. First, is the lack of interest on the part of the members. Once a 33-year loan is obtained, the borrower has little interest in the association because, for him, the main service of the organization has been fulfilled. But, you will say, he should be interested in the association because he owns stock in it. With a large number of borrowers, however, the responsibility of an individual member is small. And in the second place, the government has had to exercise a certain amount of supervision over the system, especially of the appraisals, because it granted the tax exemption privilege to farm loan bonds and is anxious to prevent serious losses. Responsibility for losses, therefore, has been shifted to some extent from the borrowers to the government. Moreover, the losses which have occurred have been due to price declines or to an unwise loan policy followed by the federal land banks, the blame for neither of which could be laid at the feet of the individual members. Consequently, the double liability feature of the stock included in the original act was never enforced, and was repealed by the Farm Credit Act of June 16, 1933.

In contrast to these weaknesses in the farm loan association setup, there is an element of strength in the policy of the Farm Credit Administration in placing more responsibility for servicing loans on the secretary-treasurer of the local association. The concentration of added responsibilities of this and other types in the local association should tend to bring borrowers into more active participation in the affairs of the association and of the system as a whole.

In 1933 Congress pulled farther away from the cooperative idea by guaranteeing the interest and principal on federal farm mortgage corporation bonds and by providing Land Bank Commissioner loans made direct to farmers without any required purchase of stock. These provisions are, of course, supposedly emergency and hence temporary in character. They contain, nevertheless, definite subsidy advantages to borrowers which will not be easily eliminated. Their termination would mean more expensive credit and a restriction in the amount loanable per acre. The extension of the period during which Land Bank Commissioner loans can be made to 1940 in a recent act of Congress indicates the possibility of these temporary measures becoming permanent.

In summary, the possibilities of a truly cooperative system are not bright. If the system is turned over to the borrowers, government supervision and subsidies will have to be drastically reduced. As long as any considerable governmental aid is involved every farmer will insist on his right to participate, a situation which makes a selected membership as in a mutual association difficult to maintain. Whether or not the system will become strictly cooperative will depend, moreover, in the final analysis, on the action of Congress. At present it appears unlikely that the government will turn the system over to the farmers. If it should happen, it is unlikely that the low-risk states would evidence much enthusiasm unless they were relieved of the joint liability for losses in the high-risk areas.

What Kind of a Governmental System?

Because of the recent emergency, the federal land bank system has become much more of a governmental loan agency than ever before. When the emergency is generally recognized as past, a point not likely to be easily determined, will the federal system become again the hybrid, part cooperative, part governmental, that it was before 1933? Or will the government continue in active leadership? Here is a critical question. Unfortunately, it is difficult to see clearly the future action of Congress on this issue. But there are straws in the wind that give some indication of the probable policy that will be adopted by Congress.

Land Bank Commissioner loans, of which 742 million were outstanding on July 31, 1935,[8] may represent a deciding factor in the situation. If these advances are successful it is conceivable that the government will be called upon to continue this type of lending as a permanent function. On the contrary, if these loans, most of them second mortgages on good security or first mortgages on poor security, turn out to be unsuccessful, then there will probably be a definite movement to get the government out of the farm mortgage business.

Whether the Land Bank Commissioner loans turn out successfully will depend chiefly on the price situation and the extent to which the loans are based on accurate appraisals. If farm income declines, the Commissioner loans will feel the effect immediately. The government through the Farm Credit Administration will then have a serious foreclosure problem on its hands. A drastic decline in farm income, below that of 1933-34, is not likely, how-

[8] Farm Credit Administration. Monthly Report on Loans and Discounts, July 1935.

ever, because during that period farm returns were unusually low. This fact connects directly with the second question. Are the loans based on accurate appraisals? The appraising of the land for these loans during an apparently severe depression, tended toward conservative rather than liberal appraisal. Evidence of losses from previous high appraisals was strewn everywhere. Appraisers could not be unconscious of it. This fact plus an able administration prevented possibly a large amount of over lending. Thus, it appears likely that the Land Bank Commissioner loans will be relatively successful.

The business of making second morgtage loans and their prototype in more normal times, however, presents added difficulties because this type of financing at best is speculative. Even though the Land Bank Commissioner loans establish a good record, a continuation of such loans, until 1940 as provided by Congress, will have to be guarded with extreme care if sizeable losses are to be prevented.

In conclusion, farm mortgage history of the past few years points definitely toward continued governmental sponsorship. As long as such sponsorship does continue, much will depend on able leadership in the Farm Credit Administration. This organization, it appears, is facing a dilemma in that the more efficiently it perform its task the more difficult and involved may become the lending activities that Congress will call on it to administer. One of these difficulties with the system since its inception is, as has been shown, preventing the federal land banks from overloading themselves with farm mortgages in the high-interest, high-risk areas because it is in these regions that the federal system with its interest rate subsidy is most attractive to borrowers.

CORRECT AND INCORRECT METHODS OF DETERMINING THE EFFECTIVENESS OF THE TARIFF[1]

HENRY SCHULTZ
UNIVERSITY OF CHICAGO

A method of determining the effect of the tariff on conditions of supply which is connected with my name has been so consistently misunderstood and misapplied in the publications of the Wisconsin Tariff Research Committee[2] and in those of some of its staff, that it seems worth while to attempt another explanation of it with the view of bringing into clearer relief the economic reasoning on which it is founded and thus affording a basis of comparison with other methods.

The Equilibrium Method

The method in question has been called the *equilibrium method*[3] because it consists of a comparison of the equilibrium positions of the domestic and the foreign demand and supply curves before and after the imposition of the duty. As I have pointed out in all of my writings on this subject, the method is due to Professor Pigou, who first advanced it in 1904[4] though it did not receive its first concrete, statistical application until 1928, when I used it to estimate the effect of the tariff on the price of sugar.[5] Certain implications of it were explored by the late Philip G. Wright and by Professor T. O. Yntema who independently provided simple proofs of Pigou's formulas.[6] In the following graphical and algebraic explanation I shall adopt Yntema's approach to the problem because his procedure appears better adapted than is the one given in my earlier studies for bringing into clear relief the interrelations of the variables with which we shall be concerned.[7]

---

[1] I am indebted to my assistant, Mr. Milton Friedman, for help in the preparation of this paper.

[2] This Committee consists of Professors John R. Commons, Benjamin H. Hibbard, and Walter A. Morton, of the University of Wisconsin. With the aid of the Rawleigh Foundation of Freeport, Illinois, the Committee has directed the preparation of several tariff studies, of which five have already been published. These are: Lippert S. Ellis, "The Tariff on Sugar"; Roland R. Renne, "The Tariff on Dairy Products"; Theodore W. Schultz, "The Tariffs on Barley, Oats and Corn"; Charles K. Alexander, "The Tariffs on Pork and Mutton"; Haldor R. Mohat, "The Tariff on Wool." The first three monographs were published in 1933, the fourth in 1934, and the last in 1935.

[3] John D. Black, "Analysis of Tariff Duties," JOURNAL OF FARM ECONOMICS, XII (1930), 80–98.

[4] A. C. Pigou, "The Known and Unknown in Mr. Chamberlain's Policy," *Fortnightly Review* (January, 1904), p. 44; *Protective and Preferential Import Duties* (1906), pp. 94–95; *Economics of Welfare* (1920), p. 942.

[5] See my *Statistical Laws of Demand and Supply with Special Application to Sugar* (Chicago, 1928), ch. vi. The method had already been explained in an earlier study of mine entitled, "The Statistical Measurement of the Elasticity of Demand for Beef," JOURNAL OF FARM ECONOMICS (July, 1924), pp. 254–78.

[6] Philip G. Wright, *The Tariff on Animal and Vegetable Oils* (New York, 1928), pp. 286–89; *Protection: Benefits and Burdens*, a booklet of 56 pages, published in 1930 by Mr. W. T. Rawleigh, of Freeport, Illinois. Yntema developed his graphic and algebraic analysis in the course of correspondence which we exchanged in 1926–27.

[7] Theodore O. Yntema, *A Mathematical Reformulation of the General Theory of International Trade* (Chicago, 1932), ch. iv. This reference covers the relation between domestic demand and supply curves, and import demand and export supply curve. It does not include Yntema's work on the main problem of this paper.

The entire method is founded on a consideration of the necessary conditions which must obtain if equilibrium is to be restored after the imposition of the duty. *If imports continue*, these conditions are:

1. The quantity of imports demanded by this country must be equal to the quantity of exports supplied to this country.

2. The domestic price must exceed the foreign price by the full amount of the duty after allowance has been made for cost of transportation.

The role which these conditions play in determining the efficacy of the tariff can be best illustrated by means of a diagram. Suppose that we have the demand curve for imports and the supply curve

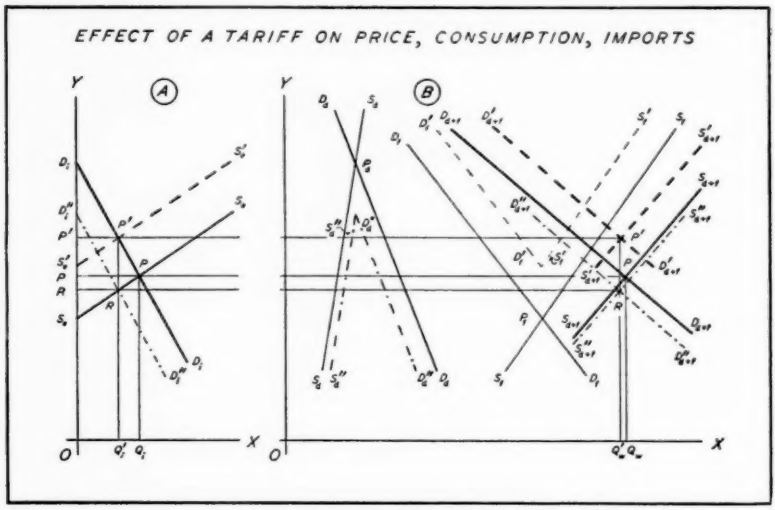


FIGURE 1. Effect of a Tariff on Price, Consumption and Imports.

of foreign exports. (The derivation of these curves will be explained later.) In Figure 1A, let D_iD_i represent the former and S_eS_e the latter. The abscissa of any point on D_iD_i represents the quantity of imports that will be taken at a price equal to the ordinate of the same point. Similarly, the abscissa of any point on S_eS_e represents the quantity of exports that will be offered at a price equal to the ordinate of the same point. The equilibrium price is OP, and the equilibrium quantity demanded and supplied is OQ_i. Now let a specific duty of S_eS_e' units be laid on imports. By the second of the foregoing conditions, this will raise the domestic price above the foreign price by the full amount of the duty or by S_eS_e' units, so that the new supply curve of exports becomes $S_e'S_e'$. The new

equilibrium price is OP' and the new equilibrium quantity of imports demanded and supplied is OQ_i'. The quantity imported decreased by Q_iQ_i' units and the price increased by PP' units.

It should be observed that the price increase is less than the tax by RP units. The tax S_eS_e' is thus divided into two parts: (1) that borne by the domestic consumer, PP'; and (2) that borne by the foreign exporters, RP.

There remains the question, How are the curves D_iD_i and S_eS_e derived? The answer is that the first is derived from the domestic demand and supply curves, and the second from the corresponding foreign curves. In Figure 1B, let D_dD_d and S_dS_d be the domestic demand and supply curves for the commodity in question, and D_fD_f and S_fS_f the corresponding curves for the foreign country. Let the quantity and the price of the commodity in question be measured along the x- and y-coordinate axes, respectively, and let the subscripts *dd*, *sd*, *df*, *sf*, indicate respectively the domestic demand, the domestic supply, the foreign demand, and the foreign supply. To construct the net import demand curve D_iD_i, we plot against each price the difference between the quantity demanded and the quantity supplied at that price in the domestic market $(x_{dd}-x_{sd})$. To construct the net export supply curve S_eS_e we plot against each price the difference between the quantity supplied and the quantity demanded at that price in the foreign market $(x_{sf}-x_{df})$. The domestic and the foreign demand and supply curves are among the (assumed) knowns of the problem. The demand for imports $(x_{dd}-x_{sd})$ is positive for all prices below P_d and negative for all prices above it. Similarly, the supply of exports $(x_{sf}-x_{df})$ is positive for all prices above P_f and negative for all prices below it. When $x_{dd}-x_{sd}$ is negative it measures the quantity of the commodity which we are willing to export; when $x_{sf}-x_{df}$ is negative, it measures the quantity which the foreign country is willing to import.

The equilibrium price OP is the world price. It is the ordinate of the point of intersection of the world demand curve $D_{d+f}D_{d+f}$ with the world supply curve $S_{d+f}S_{d+f}$ (Fig. 1B). The former is obtained from the curves D_dD_d and D_fD_f by adding, for each price, the amounts demanded both at home and abroad and taking this sum $(x_{dd}+x_{df})$ as the abscissa of the new curve. The latter is obtained from the supply curves S_dS_d and S_fS_f in a similar manner. The equilibrium world supply (which is also equal to the world demand) is OQ_w, the abscissa of the point of intersection of the world demand and supply curves.

The effect of the duty on conditions of supply may be worked out either in terms of the American prices or in terms of the foreign

prices. Let us first do our figuring in terms of the American prices.

From the point of view of the American importer, the imposition of a duty on the foreign supply is equivalent to the raising of the entire foreign supply curve S_fS_f by the full amount of the duty, or until it assumes the position $S_f'S_f'$. For, in order to get a given quantity of imports he would have to pay not only the foreign supply price but also the duty. From the point of view of the foreign exporter (who, we assume, also figures in terms of American dollars), a given price in the American market is equivalent to a price in his own country, lowered by the amount of the duty. Therefore, to treat his own demand curve on a comparable basis with the American demand curve, he must raise it by the full amount of the duty or until it assumes the position $D_f'D_f'$. The abscissa of any point of the new demand curve $D_f'D_f'$ represents the amount which would be bought in his own country if the price in America were that given by the ordinate of the same curve and the price in his own country were that given by the corresponding ordinate of the curve D_fD_f.

To get the world demand curves and supply curves in terms of the American price, we add the American demand and supply curves to the adjusted foreign demand and supply curves. The point of intersection P' of the new adjusted world demand curves $D_{d'+f}D_{d'+f}$ with the adjusted world supply curve $S_{d'+f}S_{d'+f}$ gives by its ordinate $Q_w'P'$ $(=OP'$, Fig. 1A) the *American price*, and by its abscissa OQ_w' the world demand and supply. The world price, which is less than the American price by the full amount of the duty, is $Q_w'R$ $(=OR$, Fig. 1A).

To obtain the taxed export supply curve $S_e'S_e'$ of the foreign country, we plot against each (American) price the difference $(x_{sf}'-x_{df}')$ between the quantity supplied and the quantity demanded in the foreign country.

If we wish to do our figuring in terms of the foreign prices, we must *lower* the American demand and supply curves by the full amount of the duty, or until they assume the positions $D_d''D_d''$ and $S_d''S_d''$ (Fig. 1B), and then add these adjusted demand and supply curves to the (unchanged) foreign demand and supply curves. The resulting curves, $S_d''_{+f}$ and $D_d''_{+f}$, are the world demand and supply curves in terms of the foreign prices. The ordinate $Q_w'R$ $(=OR)$ of the point of intersection R of these new curves gives the equilibrium world price, and the abscissa OQ_w' the world demand and supply; the American price OP' is greater than the world price by the full amount of the duty RP'. The difference $(x_{dd}''-x_{sd}'')$ between the quantity demanded and the quantity supplied in the domestic market plotted as a function of the for-

eign price yields the import demand curve $D_i''D_i''$ lying below the curve D_iD_i by the full amount of the duty. The conclusions as to the effect of the duty on conditions of supply would be identical with those obtained when American prices are taken as the basis of comparison.

The discussion has thus far been based on the assumption that imports continue after the imposition of a duty. If imports do not continue, the problem is still soluble by similar methods. The situation is then one of two completely independent markets; the domestic price is given by the ordinate of the point of intersection of the domestic demand and supply curves (P_d in Fig. 1B), and the foreign price by the ordinate of the point of intersection of the foreign demand and supply curves (P_f in the same figure). If the commodity is intermittently on an import and export basis, we have *prima facie* evidence that either the shape or the height of one or more of the domestic and foreign demand and supply curves is undergoing a change. This fact must be taken into account either through an adjustment of the data or through the direct introduction of the disturbing factors into the demand and supply functions.

In the foregoing explanation, the assumption that the demand and supply curves are straight lines and that the duty is specific is made only for the sake of convenience. The graphic method is equally applicable to cases when the demand and supply curves curves are non-linear and/or when the duty is ad valorem.

Algebraic Statement

The foregoing solution of the problem of the effect of the tariff on domestic price can also be stated in algebraic terms.

Let all demand and supply curves be straight lines[8] with the following equations:

$$(1)\qquad \begin{cases} x_{dd} = k_{dd}y_{dd} + c_{dd} & \text{(Curve } D_dD_d\text{)} \\ x_{sd} = k_{sd}y_{sd} + c_{sd} & \text{(Curve } S_dS_d\text{)} \\ x_{df} = k_{df}y_{df} + c_{df} & \text{(Curve } D_fD_f\text{)} \\ x_{sf} = k_{sf}y_{sf} + c_{sf} & \text{(Curve } S_fS_f\text{)}. \end{cases}$$

If we abstract from costs of transportation, the necessary conditions for world equilibrium when no tariffs are imposed are two:

1. The quantity demanded in the world must be equal to the quantity supplied:

[8] This assumption is made only for convenience. Precisely the same procedure is applicable when the demand and supply curves are not linear, but the solution is then considerably more complex.

(2) $$x_{dd}+x_{df}=x_{sd}+x_{sf}.$$[9]

2. The price should be the same in the foreign and in the domestic markets:

(3) $$y_{dd}=y_{sd}=y_{df}=y_{sf}=y, \quad \text{say.}$$

Substituting y for the various prices in equations (1), and the right-hand members of the resultant equations for the various quantities in (2), we obtain:

(4a) $$k_{dd}y+c_{dd}+k_{df}y+c_{df}=k_{sd}y+c_{sd}+k_{sf}y+c_{sf}.$$

Solving this for y gives:

(4b) $$y=\frac{c_{sd}+c_{sf}-c_{dd}-c_{df}}{k_{dd}+k_{df}-k_{sd}-k_{sf}}.$$

Now let a tariff $T(=S_eS_e'=RP'$, Fig. 1A) be levied on imports into this country. The first condition still holds and is given by equation (2), but the second condition—assuming that imports continue—now becomes that the domestic price must exceed the foreign price by the full amount of the duty. Let y' represent the new domestic price. Then $y'-T$ represents the new foreign price, and the equations corresponding to (3) are:

(5) $$y_{dd}=y_{sd}=(y_{df}+T)=(y_{sf}+T)=y'.$$

If we now substitute for the prices in (1) their values as given by (5), the demand and supply equations in terms of the domestic price become:

(6)
$$\begin{cases} x_{dd}=k_{dd}y'+c_{dd} & \text{(Curve } D_dD_d\text{)} \\ x_{sd}=k_{sd}y'+c_{sd} & \text{(Curve } S_dS_d\text{)} \\ x_{df}=k_{df}(y'-T)+c_{df} & \text{(Curve } D_f'D_f'\text{)} \\ x_{sf}=k_{sf}(y'-T)+c_{sf} & \text{(Curve } S_f'S_f'\text{)}. \end{cases}$$

Substituting the right-hand members of (6) in (2), we obtain:

(7a) $$k_{dd}y'+c_{dd}+k_{df}(y'-T)+c_{df}=k_{sd}y'+c_{sd}+k_{sf}(y'-T)+c_{sf}.$$

Solving this for y' gives:

(7b) $$y'=\frac{(k_{df}-k_{sf})T+c_{sd}+c_{sf}-c_{dd}-c_{df}}{k_{dd}+k_{df}-k_{sd}-k_{sf}}.$$

The increase in price as a result of the duty T is then

[9] From this it follows that the quantity of imports demanded must be equal to the quantity supplied: $x_{dd}-x_{sd}=x_{sf}-x_{df}$.

$$\Delta y = y' - y = \frac{k_{df} - k_{sf}}{k_{dd} + k_{df} - k_{sd} - k_{sf}} T. \tag{8}$$

Reverting to Figure 1A, we see that this equation gives the factor by which the duty S_eS_e' must be multiplied in order to obtain the price increase PP'.

Formula (8) can also be expressed in terms of elasticities. Letting η_d and η_f represent the domestic and the foreign elasticities of demand, and e_d and e_f the corresponding elasticities of supply; and recalling that the k's in (8) are the slopes of the demand and supply curves, so that

$$\begin{cases} k_{dd} = \eta_d \dfrac{x_{dd}}{y}, & k_{df} = \eta_f \dfrac{x_{df}}{y}, \\ k_{sd} = e_d \dfrac{x_{sd}}{y}, & k_{sf} = e_f \dfrac{x_{sf}}{y}, \end{cases}$$

we have, after an obvious simplification,

$$\Delta y = \frac{\eta_f x_{df} - e_f x_{sf}}{\eta_d x_{dd} + \eta_f x_{df} - e_d x_{sd} - e_f x_{sf}} T, \tag{9}$$

in which the elasticities and the quantities relate to the same price y on their respective straight-line curves—presumably the equilibrium price prevailing before the imposition of the duty.

Instead of expressing the change in the price in terms of the elasticities of the ordinary demand and supply curves of the foreign country (Curves D_fD_f and S_fS_f in Fig. 1B), it is sometimes more desirable to express it in terms of the elasticity of the *net* foreign supply curve (Curve S_eS_e in Fig. 1A). Formula (9) then becomes

$$\Delta y = \frac{E_f(x_{df} - x_{sf})}{E_f(x_{df} - x_{sf}) + \eta_d x_{dd} - e_d x_{sd}} T, \tag{10}$$

where E_f is the elasticity of the net foreign supply of exports, and is quite different from e_f.

When the change in the price due to the tariff has thus been computed by either (8), (9), or (10), it is a comparatively easy matter also to compute the change in domestic consumption and in imports, although in practice it is more convenient to read off all these values from the graphs of the demand and supply curves, as is evident from Figure 1.

It is important to keep in mind the fact that Δy does not measure the difference that will actually obtain in this country between the prices prevailing before and after the imposition of the duty, for

the historical course of prices is affected by a complex of factors of varying intensity. Nor does it measure the difference obtaining between the domestic and the foreign prices after the imposition of the duty, for that must be equal to the tariff when allowance is made for cost of transportation. What it does measure is the difference between the post-tariff price and the price that would have prevailed in the absence of the tariff, *if the factors which are summarized in the demand and supply equations had remained unchanged.* It is only when this condition is realized that this difference coincides with that which actually obtains between the pre-tariff and the post-tariff prices.

The formulas given for Δy are subject to several limitations:

(1) They have all been deduced under the explicit assumption that imports continue in spite of the tariff. It is of course obvious that if imports cease, the differential between the prices inside and outside the tariff wall will be less than the tariff and equal to the difference between the ordinates of P_d and P_f in Fig. 1B. A concrete illustration of this phenomenon is provided by Professor Renne in his study of the effect of the tariff on dairy products.[10]

(2) They do not apply to monopolistic or oligopolistic situations, although the result of a tariff under such conditions could be derived by methods quite similar to those here presented.

(3) They assume that the demand and supply curves depend only on the price of the commodity in question and thus neglect the effect of the tariff on the disruption of the balance of international payments and on the prices of the other commodities. This effect can, however, be taken into consideration by using general demand and supply functions and relaxing the limitations of the equilibrium equations.

Formulas (9) and (10) correspond to formulas (82) and (80) of my *Statistical Laws of Demand and Supply*, and are due to Professor Pigou. Formula (9) is the basis of the method which I used in this book to estimate the effect of the tariff on the price of sugar, and which has since been referred to as the "equilibrium method" of determining the effectiveness of the tariff. This term should not, however, be taken to mean that in practice the application of the method must be confined to those very rare occasions on which an actual equilibrium obtains between demand and supply both at home and abroad. No. Both the demand curves and the supply curves may move with time and the method may still be appli-

[10] Roland R. Renne, "The Tariff on Dairy Products," published by Tariff Research Committee, Madison, Wisconsin (1933).

cable.[11] The equilibrium position is simply a reference point from which to measure departures. It corresponds to the "mean sea level" of the surveyor.

Formula (9) can be modified so as explicitly to take into consideration several sources of supply and to apply to ad valorem as well as to specific duties. It presupposes a knowledge of the various factors which affect the price of the commodity in question and which are summarized in the domestic and the foreign curves of demand and supply. The fundamental difficulties which we encounter in the application of this formula thus all center around the problem of deriving the concrete, statistical form of the demand and supply curves. If it is impossible to derive these curves, it is impossible to determine the effect of the tariff on price.

The Wisconsin Committee's Criticisms

Although some of the greatest economists of all time have felt that the problem of the effect of a tariff on conditions of supply cannot be solved by "common sense" or "practical" methods, that it is "too complicated for the unaided intellect to deal with," and that recourse must, therefore, be had to analytical methods, the Wisconsin Tariff Research Committee apparently believes that this view is erroneous. Thus, in his discussion of "Methods of Tariff Investigation," which constitutes Appendix A to Ellis' *The Tariff on Sugar*,[12] Professor Walter A. Morton of the University of Wisconsin, a member of the Committee, advances economic and statistical arguments in support of the thesis that the equilibrium method "even if it were satisfactory, could not be used to ascertain the effect of the sugar duty during the past decade."[13] His economic objections are:

1. that "mathematical economists have relied almost wholly on neo-classical reasoning . . . . [and their assumptions] are subject to the same limitations";
2. that "The mathematical school in effect really attempts to furnish concrete data to fill in the purely subjective supply and demand schedules of neo-classical theory";
3. that "Neo-classical economists generally assume that the long run supply curve is the normal cost curve, *and the demand curve is the utility curve. Only the supply curve is determinable empirically, and then only in such cases as marginal costs are known*"; and

---

[11] In fact when the theoretical demand and supply curves do not move it is impossible to determine the concrete, statistical form of these curves. See my "Der Sinn der statistischen Nachfragekurven," *Veroeffentlichungen der Frankfurter Gesellschaft fuer Konjunkturforschung*, Heft 10 (1930), edited by Dr. Eugen Altschul; and my forthcoming book, The Theory and Measurement of Demand.

[12] See n. 1.

[13] Ellis, *op. cit.*, p. 172.

4. that "So long . . . as the demand curve remains subjective, it is useless for empirical analysis."[14]

Of these objections, only the first deserves serious consideration; the rest, I regret to say, are simply errors of fact. Regarding his first point we need only to remark that not only the neo-classical and the general equilibrium schools, but also the Austrian school assume "rational" or consistent market behavior on the part of consumers and producers, that no non-rational theory of economics has yet been advanced which is capable of dealing with the problem at hand, and that the assumptions ("limitations") which Professor Morton attributes to the neo-classicists do not invalidate formula (9) as a fair approximation to the facts in many instances.

Professor Morton's statistical objections to the "equilibrium method" are:

1. that the methods which must be used (and which I used) to determine the statistical demand and supply curves involve a logical impossibility;
2. that the method of eliminating the influence on supply and demand of factors other than price "by the use of trends or trend ratios is adequate only on the assumption that they are not the determining, but merely 'disturbing' factors";
3. that the curves relate only to the period covered by the data and cannot be blindly used for any subsequent period;
4. that the existence of the law of demand is not an objective fact, as I claimed in my book, since many curves can be fitted to the same scatter diagram of prices and quantities, and the selection of one of them as *the* law of demand involves the exercise of judgment.[15]

Of these four objections only the first two are new, the rest being admittedly repetitions of some of the limitations and qualifications of statistical demand curves which I was careful to point out in my *Statistical Laws of Demand and Supply*. The second can be quickly disposed of. The problem at hand is one in which the various factors mutually influence one another. Which factors are to be looked upon as "determining" and which as "disturbing"—whatever these may mean—depends on the point of view from which the problem is attacked. The first objection is the one which Professor Morton considers fundamental. It is, therefore, desirable to let him speak for himself:

"The mathematical school attempts to perform a task which on strictly logical grounds is impossible. It seeks to infer two unknowns from one known—to derive from an effect (without a third system of reference) two independent causes, without knowing the value of either cause. The known effect is the quantity of sugar exchanged at certain prices. The

[14] *Ibid.*, pp. 162–65. Italics are mine.
[15] *Ibid.*, pp. 163, 170–72.

causes sought are the supply and demand curves which brought about this exchange curve. So long as the cost curve is used to derive the supply curve, the exchange curve can be used to derive the demand curve. If, however, the cost curve is rejected as the basis for the supply curve, both curves must be derived from the exchange curve.

"Some attempts to derive two unknowns from one known assume that economic theory is the third system of reference, but economic theory is merely an hypothesis which statistics may prove, and not a proof of the validity either of statistical method or its result. To reject this or that result because it gives a curve which does not agree with economic theory, or to accept another because it does, is fallacious. It illustrates the well-known tendency to use statistics to prove preconceptions rather than to find the actual content of human behavior. Curves thus ascertained prove not how human beings behave, but merely that curves consistent with economic theory may be derived.

"Available price series indicate at what price given quantities of sugar are *exchanged*. They cannot give us supply and demand curves, but merely *exchange* curves. To derive supply and demand curves from the exchange curve requires a system of reference outside these data by which it can be shown whether price changes are due to changes in the supply curve or the demand curve. Without such a system an independent series must be used to derive the supply curve, which ultimately comes from the cost curve."[16]

The entire argument is marred by several vague, indefinite, and erroneous notions of the subject in question. It is simply preposterous to argue that the *mathematical* school attempts a task "which on strictly logical grounds is impossible." It is the only school which gives formal proofs of its conclusions—but one must be able to follow the proofs. It is, of course, true that in their inductive, statistical work mathematical economists sometimes derive both the demand curve and the supply curve from the same series of quantities and prices, which fact Professor Morton cites in support of his contention.[17] But this is perfectly legitimate if certain conditions are present, as I have shown in Chapter III of my little book, "Der Sinn der statistischen Nachfragekurven."[18]

However, even if his criticism were valid, it would not apply to my estimate of the effect of the tariff on the price of sugar for in *Statistical Laws of Demand and Supply* I used different statistical series for deriving the demand and the supply curves of sugar. Indeed, I derived no less than three different supply curves—the American, the insular, and the world—and each one of these was, of course, based on different statistical series. I freely grant that the procedure is based on certain economic preconceptions, but that

---

[16] *Ibid.*, p. 165. (Italics are Professor Morton's.)
[17] *Ibid.*, p. 169.
[18] "Der Sinn der statistischen Nachfragekurven," *Veroeffentlichungen der Frankfurter Gesellschaft fuer Konjunkturforschung*, Heft 10 (1930, Kurt Schroeder, Bonn), edited by Dr. Eugen Altschul.

is what gives significance to the statistical findings. Moreover, recourse to hypotheses is unavoidable whether we use the same series or different series for deriving our demand curve and supply curve. Suppose, for example, that the correlation between the price and the quantity of corn were positive. Would Professor Morton conclude that this proves that the demand curve for corn is positively sloped? or that the data are observations on a supply curve? Whatever his conclusion, can it be free from economic preconceptions?

The Price Differential Method

The road has now been cleared for a consideration of the basic issue raised by Professor Morton's memorandum. Granted for the purpose of the argument that his economic reasoning is valid. Granted also that his statistical criticisms have some merit. Granted, in short, the equilibrium method cannot be safely used to ascertain the effect of the tariff on price. Is there another method which is superior to it? Yes, says Professor Morton—and Professors Commons and Hibbard apparently agree with him—it is the "price differential method" which Ellis uses in his book.[19] It behooves us, therefore, to examine this method and to compare it with the equilibrium method.

Fortunately, the task is very easy. *The so-called "method" consists of multiplying the tariff rate T by the consumption, and calling the resulting product the burden of the tariff.* The actual procedure which Ellis uses is, however, not so simple. He actually goes to the trouble of computing the difference between the London, New York, and Cuban prices for each month from 1922 to 1930 only to discover that

> "The duty-paid price of 96° centrifugal sugar at New York (transportation costs considered) was above the c.i.f. price of 96° sugar at London by approximately the full amount of the Cuban tariff rate on sugar. The actual spread for the period 1922 to 1929, inclusive, was 1.695 cents per pound, which is equal to the Cuban tariff rate when the difference between Cuba-to-London and Cuba-to-New York transportation costs are considered."
>
> . . . . . .
>
> "The differential between the c. & f. price of 96° Cuban sugar and the duty-paid price of the same grade of sugar at New York from 1922 to 1929 was 1.755 cents per pound, or approximately the full amount of the Cuban tariff rate."
>
> . . . . . .
>
> "All of these differentials indicate that the price of sugar in this country at any given time is higher than the world price by the full amount of

[19] *Ibid.*

the Cuban tariff rate on sugar. On a refined basis this amounted, while the 1922 duty was in force, to 1.8885 cents per pound."[20]

Ellis then converts this figure to a duty per long ton ($42.30), multiplies the latter by the average annual consumption of sugar for 1922–29, and obtains $225,035,915, which he calls "the extra [annual] cost of sugar, due to the tariff, to the wholesale purchasers of sugar in the United States while the Tariff Act of 1922 was in force."[21]

Ellis realizes that his "method" is not all that might be desired, for he admits that

> "It [the difference between the New York and the London prices] does not indicate whether either the New York or the London price was higher or lower than it would have been without the American sugar tariff. Accurate conclusions regarding these questions must be based on an analysis which gives due weight to all factors affecting production, consumption, and price. This has, of course, never been done, and the present writer does not feel that he could make a satisfactory analysis of the effect of the almost innumerable number of factors on the world price of sugar from 1922 to 1929, and isolate the exact effect of any one of those factors. Moreover, it does not seem that such ultra-refinements are worth much, even granting their feasibility. The question is whether or not producers get a real margin of advantage from a given tariff; not whether they secure a 100 per cent margin or only a 90 per cent margin."[22]

Nevertheless, this does not prevent him from computing the total cost of the sugar duty to the nearest dollar, and it does not prevent Professor Morton and the other members of the Wisconsin Tariff Research Committee from claiming or implying that the "price differential method" is a method of determining the cost of the tariff to the consumer. We are, therefore, justified in raising the following questions:

1. Was it really necessary to spend so much time, energy, and money to "prove" statistically that the domestic price of sugar exceeds the foreign price by the full amount of the duty, when allowance is made for transportation costs? What other finding was possible when the commodity is imported, and there are no differences in quality between imports and exports and the customs officers are diligent in the enforcement of the law? It should be easy by the price differential "method" to determine the effect of the tariff on the price of each of our numerous dutiable commodities by merely consulting the Tariff Act and a schedule of freight rates!

2. Do not Ellis' painstaking statistical computations constitute

---

[20] *Ibid.*, pp. 142–44.
[21] *Ibid.*, p. 148, and Tables 46 to 50.
[22] *Ibid.*, p. 144.

a perfect verification of the much-maligned "neo-classical" theory which assumes that the difference between the domestic and the foreign price must be equal to the duty (our T), when allowance is made for transportation costs?

3. In computing the cost of the duty to the American consumer, by the price differential "method," why does not Ellis multiply the rate by the consumption for the year *immediately* preceding the imposition of the duty? Why count the cost only on the amount of sugar purchased after the imposition of a duty? Why not take into consideration the loss (monetary or otherwise) to those who are compelled to reduce their consumption of sugar?

Until the foregoing questions are satisfactorily answered, we are justified in concluding that the price differential approach which has the blessings of the Wisconsin Tariff Research Committee has no scientific foundation. It attempts to "prove" statistically that when allowance is made for transportation costs the price inside the tariff wall is higher than the price outside the tariff wall by the full amount of the duty—something which we are supposed to have learned in our elementary "Principles." It assumes that this difference is borne entirely by the domestic consumer. It does not, and cannot, determine how this increase is divided between the domestic consumer and the foreign exporter—which is what we generally understand by the question of the effect of the tariff on price, and what the "equilibrium method" is designed to answer.[23]

The method is poor even as propaganda for free trade. By exaggerating the cost of the tariff—and that is what it generally does—it tends to obscure the situation with regard to the tariff. I am far from claiming that the "equilibrium method" can be applied under all circumstances. But a consideration of the economic reasoning which underlies it, combined with even rough estimates of the factors called for by that formula, would have yielded much more reasonable results than those obtained by the Wisconsin Tariff Research Committee.

Professor Renne's Comparison of the Two Methods

That the price differential method, properly applied, can only verify the theoretical condition that the domestic price must be

[23] It is interesting to observe that in their introduction to a later publication of the Tariff Research Committee, Professors Commons, Hibbard, and Morton appear to have recognized the weakness of their former position, for they say:

> "It is not feasible to estimate to what extent this differential between [the price of butter in] London and New York is a real benefit to American producers in the sense that it is due to a rise in the New York price and not to a fall in the London price. Such calculations would require a knowledge of foreign and domestic elasticities of supply and demand, information which is at best largely conjectural."

(See Renne, "The Tariff on Dairy Products," September, 1933, pp. 16–17.)

higher than the foreign price by the amount of the duty, but cannot tell us how much of this difference is borne by the domestic consumer and how much by the foreign exporter, is a truth which seems to have escaped even so painstaking an investigator as Professor Renne. In an informative bulletin published in 1933, and more especially, in an article published in 1934[24] Renne uses both the price differential method and the equilibrium method to estimate the effect of the tariff on the price of flaxseed and obtains substantially the same result by both methods, namely, that the increase in the price is approximately 75 per cent of the duty. A closer inspection of his procedure shows, however, that the agreement is fictitious. Renne's problem is somewhat different from that which confronted me in 1928 when I wished to estimate the effect of the tariff on the price of sugar. In the first place, the imported and the domestic flaxseed are of different quality, Canadian flaxseed containing about one-half pound of oil and Argentine flaxseed about one pound of oil per bushel more than domestic Northern-grown flaxseed. Second, a refund or drawback equal to 99 per cent of the duty is granted, under the tariff acts of 1922 and 1930, to producers of exported linseed oil, linseed cake and meal, and other products made from imported flaxseed. Allowing for these factors, Renne finds that "the duties on flaxseed can not, on the average, be more than 75 or 80 per cent effective in increasing domestic prices."[25] Then, comparing the Minneapolis and the Winnipeg prices for the period from September 21, 1922, to May 14, 1929, during which the duty was 40 cents per bushel, he finds that the differences averaged approximately 30 cents. Finally, he computes the elasticities of domestic and foreign demand and supply and, making use of the equilibrium method [formula (9)], obtains

$$\Delta y = 0.772T,$$

which shows that the increase in the price is 77.2 per cent of the duty. So far so good.

Renne next applies the factor 0.772 to the uncorrected duty, i.e., he puts $T = 40$ cents, thus obtaining $\Delta y = 30$ cents, and argues that

"This result indicates that if the 40-cent duty had not been in effect during this period, domestic prices of flaxseed would have been approximately 30 cents per bushel less than they were. It is interesting to note that this is approximately the same figure obtained as the effect of the 40-cent duty on prices after discounting the effect of the drawback and the difference

[24] Roland R. Renne, *The Flaxseed Market and the Tariff*, Bulletin 272, Montana State College Agricultural Experimental Station, Bozeman, Montana, Feb., 1933; and "Verification of Tariff Effectiveness by Different Statistical Methods," JOURNAL OF FARM ECONOMICS, XVI (1934), 591–601.

[25] Renne, *The Flaxseed Market and the Tariff*, p. 29.

in quality of domestic and Canadian seed. It tends to confirm or verify the results secured in the preceding steps."[26]

The last step is erroneous. Renne should have put T equal to 30 cents, i.e., to the duty corrected for the effect of the drawback and for the difference in quality between the domestic and the Canadian seed. His formula would then show that 23 cents of the (corrected) duty is borne by the domestic consumer, and 7 cents by the foreign producer. In other words, it would show that the American price is 23 cents higher and the foreign price 7 cents lower than they would have been in the absence of the duty. By putting $T = 40$ (cents), he is, in fact, failing to correct his demand and supply curves for the two factors, and is thus using curves which are not comparable with one another. It is this substitution that yields the apparent agreement between the price differential method and the equilibrium method. It cannot be overemphasized that the computation of price differentials constitutes no method of estimating the effect of the tariff on price. All that the so-called "method" can show is that the difference between the domestic and the foreign price (after allowance has been made for rebates, differences in quality, in methods of quoting prices, etc.) is equal to the duty. It cannot, and does not, show how much of the duty is borne by the domestic consumer and how much by the foreign producer—which is the problem of "tariff effectiveness."

Conclusions

1. The problem of the effect of a tariff on conditions of supply is, in the words of F. Y. Edgeworth, "too complicated for the unaided intellect to deal with." To attack it successfully we must make use of the type of analytical tool and factual information which are called for by the "equilibrium method." This is the only method which can tell us by how much price would be lower if there were no tariff.

2. Nearly all the Wisconsin Committee's criticisms of this method as represented by Professor Morton's analysis of it, are based on vague, indefinite, and erroneous notions of the economic theory and statistical techniques relevant to the subject in question.

3. The "equilibrium method" is, however, difficult to apply, since it calls for demand and supply curves which it is generally very difficult, if not entirely impossible, to obtain. Furthermore, it cannot measure the long-run irreversible effect of a change in tariff policy.

[26] Renne, "Verification of Tariff Effectiveness by Different Statistical Methods," p. 600.

4. The "price differential method" used by the Wisconsin Committee has no scientific validity. In fact, it is no method at all. It is based on the erroneous notion that the increase in price subsequent to the imposition of a duty is equal to the full amount of the duty, and consequently exaggerates the effect of the tariff on prices. As Professor Black put it,

> "The Wisconsin study seems to assume that the consumer in the United States pays all the sugar differentials, all the feeder cattle and beef differentials, all the dairy products differentials; also the differentials for wool, flaxseed and some other products. No effort seems to have been made to observe the changes in prices resulting in other markets. The result is that the increases in the United States of gross receipts of the growers, and of outlays of consumers are mostly considerably higher in the Wisconsin study. The speaker would be inclined to say that the increases in differentials on dressed beef between the United States and Canada is made up more largely of a decline in Canadian prices than of a rise in our prices, and that even the wool differential to an appreciable extent is composed of a decline in world prices as a result of our own expanded production and contracted consumption."[27]

The price differential "method" can at best be used only in the preliminary analysis of the data.

5. The agreement which Professor Renne obtained between the results of the two methods when applied to the data for flaxseed is more apparent than real, since in applying the price differential method he makes an allowance for the difference in quality between the domestic and the imported flaxseed, while in applying the equilibrium method he fails to make such an allowance. The equilibrium method cannot possibly be verified by the price differential method.

6. It is not the contention of this paper that the equilibrium method can be applied to estimate the effect on conditions of supply of all tariffs which arise in practice. Thus, the commodity in question may be subject to monopoly control, or the effect of the tariff on the prices of other commodities and on the balance of international payments may be too great to be neglected, or it may be impossible to derive the statistical form of the demand and supply functions. But all attempts to derive more general and more accurate measures of the effect of the tariff on conditions of supply must take as their point of departure the single-commodity equilibrium method which is the basis of formula (9). The formula cannot, therefore, be dispensed with, but it must be employed with great care and only after a careful historical study of the industry or commodity in question.

[27] John D. Black, "Analysis of Tariff Duties," JOURNAL OF FARM ECONOMICS, XII (1930), 91.

A REPLY TO PROFESSOR SCHULTZ

ROLAND R. RENNE
MONTANA STATE COLLEGE

The above article by Professor Schultz helps to clarify or at least crystallize the principal basic conceptions and the technique of the so-called equilibrium approach to tariff effectiveness. It shows very definitely that fundamental differences do exist in the economic reasoning and resulting methods used by various tariff investigators. These differences are not of interest merely from an academic standpoint but have important far-reaching economic and social implications.

First of all, let us summarize the main points of the equilibrium and price differential approaches and then consider their relative merits by specifically applying them to a few commodities.

In the words of Professor Schultz, the equilibrium method is founded entirely on "a consideration of the necessary conditions which must obtain if equilibrium is to be restored after the imposition of the duty." The reader must conclude as he reads his discussion that the equilibrium or formula method is based on a set of "equilibrium assumptions"—preconceived conclusions based on the theory that an equilibrium or balance is achieved between demand and supply, exports, imports, and prices in a given commodity. The statistics used in the formula are used to prove these preconceptions and Professor Schultz states that it is this procedure which gives significance to the statistical findings. Exchange curves (the amounts of the commodity exchanged at various prices) are used to derive the demand and supply curves and this is justified on the preconceived economic theory that exchange curves, in the long run at least, reflect the true demand and supply curves. The true demand and supply curves may be concealed, however, by other forces operating in the market place, but these disturbing forces are eliminated by Professor Schultz through the use of link relatives, trend ratios, and the "proper" fitting of the curve to the adjusted data. This fitting is done according to the preconceived conclusions as to what should occur based on equilibrium economics.[1]

The price differential method involves the principle of measuring the difference between domestic prices and foreign prices, and attributing the differential in favor of domestic prices to the influence of the tariff after the influence of other principal price-making factors has been considered. It is not based on any preconceived notions of a balanced and coherent market system, or a precise equilibrium economics founded on the belief that price is a perfect regulator of production and consumption, or that there is rational coordination of economic activity making for perfect adjustment at the margin. It begins with an analysis of the market and records what occurs. It analyzes the institutional setting within which demand, supply, prices, and the tariff operate, and if it appears that the assumptions of equilibrium economics predominate, orthodox conclusions are drawn. If, however, an institutional or market setting within which

[1] On page 94 of his "Statistical Laws of Demand and Supply," Professor Schultz says, "The demand curves which were finally selected in this study are those which were fitted on the assumption that the reason why any point fails to fall on the curve is that it is subject to a horizontal as well as a vertical 'error'. The 'errors' with which we have to deal are not only, or even mainly, the accidental errors due to no known cause of systematic or constant error which play such an important rôle in the theory of least squares. But they are treated as though they were true accidental errors. That is to say, we first eliminate such constant or systematic 'errors' as may be eliminated through the use of index numbers, trend ratios, or link relatives. We are quite certain that there are others still, but we cannot measure them. We therefore assume that they are eliminated by the graduation process involved in fitting the demand curve."

price-making forces operate in ways quite different from those assumed by equilibrium economics is found to exist, these differences are recorded and their influence on tariff effectiveness roughly appraised.

The price differential method lacks the precision claimed for the equilibrium or formula method and it cannot show how much of the spread between domestic and foreign prices is due exactly to a fall in foreign prices and how much is due exactly to a rise in domestic prices following the imposition of the duty. But it has a definite place in tariff analysis as will be seen from the following examples.

Let us begin with the commodity sugar since Professor Schultz worked out his conclusions using this product, and Professor Morton of the Wisconsin Tariff Research Committee, challenged his method for measuring the effects of the sugar duty since the war. Morton contends that so many fundamental changes have occurred in the production, consumption, price, and entire marketing and institutional setting of sugar that the "equilibrium assumptions" upon which the formula is based are not applicable in the manner in which they were applicable before the war. Some of these changes are summed up by Ellis as follows:

> After the World War the European sugar beet industry practically started afresh; production in Cuba has been subject to legislative control; production in Java and other cane-producing areas has been increased tremendously through the development of new, improved varieties; war prosperity in the sugar industry was followed in turn by a depression, a short-lived prosperity, and another still-existing depression during which all relation between cost and market price seems to have disappeared and the industry has gone into bankruptcy on a large scale; severe monetary disturbances have occurred in several important countries; tariffs, bonuses, bounties, and special privileges of all kinds have been granted the sugar industry throughout the world; and Russia has been accused of dumping sugar on the world markets without regard to costs or profits.[2]

In the face of these changes it would indeed be rather naïve to assume that a formula, based on free competition and equilibrium economics, would give as accurate a measure of tariff effectiveness as it did before these changes occurred. It does not seem to coincide with the facts, since recently at least supply has not been a function of cost. Certainly no one can believe that the sugar supply in the past decade has followed the neo-classical law of free competition.[3] The fundamental difficulties encountered in applying the formula method, in the words of Professor Schultz, "all center around the problem of deriving the concrete, statistical form of domestic and foreign curves of demand and supply." He further states that "if it is impossible to derive these curves, it is impossible to determine the effect of the tariff on price." Is it possible to derive these curves accurately without weighing the significance of each of the above mentioned changes? And, is it possible to do this with present statistical tools with the exactness claimed for the formula method? Schultz claims that while the formula does not apply to monopolistic or oligopolistic situations, the result of a tariff under such conditions could be obtained by methods quite similar to those presented by him. Are we to conclude from this that the formula could be so revised as to measure accurately the effectiveness of the sugar duty under the conditions which existed

---

[2] Ellis, Lippert S., "The Tariff on Sugar." The Rawleigh Foundation, Freeport, Ill., 1933, pp. 118 and 119.

[3] Ellis, *op. cit.*, p. 164.

during the past decade? Such a revised formula would be a distinct contribution.

In the case of butter, the basic assumptions underlying the formula method break down almost completely. In the writer's analysis of the butter markets and the effectiveness of the butter duties covering the period 1922 to 1932, it was found that a differential between domestic and foreign butter prices equal to the duty did not occur whenever imports persisted, in spite of the fact that allowance was made for transportation costs and similar factors.[4] This assumption is fundamental to the formula method (in the early part of the above paper Professor Schultz states that one of the basic assumptions underlying the formula or equilibrium method is that "if imports continue the domestic price must exceed the foreign price by the full amount of the duty after allowance has been made for cost of transportation") but in the case of butter it is contrary to fact.

The explanation of this partial differential in the case of butter is found in the fact that we are intermittently on an export and an import basis, or so close to the neutral zone between the two that we are virtually on a domestic basis and our markets are, for a part of the time, subject to purely domestic factors. The differential between domestic and foreign prices fluctuates from week to week and from day to day within a given month. Thus the relationship between prices in domestic and foreign markets is in a constant state of flux, and a so-called equilibrium or balanced state is not achieved. Imports are recorded in every month of the year. The equilibrium method cannot be used at all in the case of butter.[5] To measure the effect of the duty by the Pigou formula even were the data available to construct supply and demand curves would lead to erroneous conclusions. In the words of Morton, "It has never been shown that this formula can explain a partial differential, or the benefit of a duty when it does not exclude imports, but for practical purposes creates two independent markets."[6]

Professor Schultz acknowledges that the equilibrium method cannot be applied to all products or under all circumstances. He has never attempted to apply the formula to measure the effectiveness of the butter duty (at least he has never made any estimates or results available), yet he states, in criticizing the work of the Wisconsin Committee that "a consideration of the economic reasoning which underlies it (the equilibrium method), combined with even rough estimates of the factors called for by that formula, would have yielded much more reasonable results than those obtained by the Wisconsin Tariff Research Committee." Suffice it to say that had the Wisconsin Committee undertaken an analysis of the effectiveness of the butter duty by the preconceived notions of equilibrium economics underlying the formula method, rather than starting the study with a careful, subjective appraisal of markets and market forces as they actually existed, the sensitiveness of the domestic market and the significance of the constant state of flux of the relationship between prices in

[4] See Renne, Roland R., "The Tariff on Dairy Products," The Tariff Research Committee, Madison, Wisconsin, 1933.

[5] It may be argued that if more refined price and import data were available for butter such as daily prices and imports instead of monthly figures, the equilibrium method could be used for measuring tariff effectiveness, since undoubtedly prices in domestic markets must rise above world market prices for very short periods to permit profitable importation. But the sensitiveness of our butter markets due to our being so close to the borderline between an import and export basis would really necessitate more refined data than daily prices and imports, and even hourly data would not change the problem materially.

[6] Ellis, *op. cit.* p. 173.

domestic and foreign markets might not have been revealed. It seems to the writer that it is just as important a contribution to economic science and progress to start the analysis with the market and study the many forces playing on that market in determining prices and their relations to demand, supplies and costs, to show or prove that an equilibrium situation does not occur or operate for at least considerable periods, as it is to assume that it does exist and proceed to try to prove it using one or two commodities as examples.

The above statements regarding the butter duty should show conclusively that other findings than the full amount of the duty are possible when "the commodity is imported and there are no differences in quality between imports and exports and the customs officers are diligent in the enforcement of the law."

The writer does not believe that at any place in any of their publications has the Wisconsin Committee even suggested that their method would show how much of the difference between domestic and foreign prices was due to a rise in domestic prices and how much to a fall in foreign prices following the imposition of the duty. The writer did not attempt to show this in his flaxseed study, but Professor Schultz is undoubtedly correct in stating that the writer should have used 30 cents as T instead of 40 cents to show how much of the 30-cent differential was due to a rise in domestic prices and how much to a fall in Canadian prices. This step is of course a significant and worthwhile one. The writer was merely attempting to verify the total price differential attributable to the duty which was derived by discounting freight differentials, drawbacks, and differences in quality of seed and assuming an equilibrium status of demand, supply, imports, exports, and price. The farm price differentials and other data presented in the writer's analysis of the flaxseed duty[7] are evidences that we are on a definite import basis in this commodity and that the assumptions of equilibrium economics are much more applicable than in the case of butter or perhaps even sugar since the war. Professor Schultz states that the formula cannot verify this total differential because it is obvious (if imports persist it is equal to the duty after making allowance for transportation costs, etc.) However, the analysis of the butter duty proves that the amount of the differential attributable to the duty is not always so obvious. How then, can we be sure of the accuracy of the total differential which is broken down by the formula method into two portions—that due to a rise in domestic prices and that due to a fall in foreign prices? In the case of a product like butter, what method is better (and available) than the market analysis approach or price differential method used in the Wisconsin study?

This discussion has probably emphasized what should be obvious to most students of the tariff, and that is that we need more tariff research. It is hoped that it has clarified the issues a little more by pointing out, through specific applications of the methods to 2 or 3 commodities, the applicability of the basic assumptions and techniques of each, together with the nature of the problems encountered. It is hoped further that it will call forth increased efforts from students of the tariff to work out techniques to measure tariff effectiveness satisfactorily under the varying conditions and interrelationships indicated.

---

[7] Renne, Roland R., "The Flaxseed Market and the Tariff," Montana Agricultural Experiment Station, Bulletin 272 and "Verification of Tariff Effectiveness by Different Statistical Methods," JOURNAL OF FARM ECONOMICS, Vol. XVI No. 4, October, 1934.

THE NATIONAL INSTITUTE OF AGRICULTURAL ECONOMICS IN ITALY

ARRIGO SERPIERI

Professor Serpieri has been the outstanding leader in the development of agricultural economic research in Italy. His work as a professor of agricultural economics, commencing in 1904, as Under-Secretary of Agriculture in 1923 and later as Under-Secretary in charge of the Reclamation Service, has its scientific background expressed in this story of the development of the National Institute of Agricultural Economics which was founded at his request, and of which he has always been the President. In the years since the World War no country has made greater progress in this field than Italy. This fact is due in large measure to the organized leadership which has been provided through the National Institute of Agricultural Economics.

It was, I believe, because of his sincere desire to be helpful in the promotion of the new program of the International Institute of Agriculture that he consented to speak to a group of the principal economists and statisticians of this Institute in the home of the American Delegate of the Permanent Committee on June 21, 1935. Believing that the history of the development of agricultural economics in Italy in the present century would be of interest and value to American readers, I arranged to have the informal address of Professor Serpieri taken down in shorthand and after submitting the copy to him for revision, have had it translated into English.

H. C. TAYLOR

What I am about to say is without any scientific pretentions. In order to consent to the desire expressed to me by Professor Taylor, which desire is very welcome to us as Italian students of agricultural economics, since it is expressed by one who rightly holds a position of world eminence in these studies—I shall give you a short sketch of the origin, the organization and the working of the National Institute of Agricultural Economics, over which I have had the honor of presiding since its inception, and around which are gathered almost all those who in Italy are devoting their scientific activity to the study of agricultural economics and who have a qualified position in this branch.

Allow me to return for a moment to a period now far in the past, to the last ten or fifteen years before the War, when I was just beginning my work on these studies.

At that time the Chairs of Agricultural Economics at the Agricultural Colleges were held by two beloved professors: Vittorio Niccoli, first at Milan and then at Pisa, one of whose students I had the privilege to be, and Oreste Bordiga, who held the Chair at Portici. In the University Chairs of Political Economy, the economists, with very few exceptions, hardly recognized the specific problems of agriculture, steering with all sails set in the *mare magnum* of pure and mathematical economics. One of these exceptions was Ghino Valenti. Although a university professor

of the science of economics, he never forgot his first studies devoted to agricultural economics under the guidance of Stefano Iacini, one of those great Italians of the time of our national reconstruction (*Risorgimento*), who left us some excellent economic studies, perhaps not so *pure* as those which came later, but undoubtedly more concrete, because not dissociated from the other aspects of social life, and particularly from law and politics. Ghino Valenti was, at that time, almost the only economist who dealt especially, in a first-class manner, with the economics of agriculture. In the last years before the War he was entrusted with the reorganization of Italian agricultural statistics, which he carried out in an admirable way.

Another excellent agricultural economist at that time was Francesco Coletti, who became a university professor.

Niccoli and Bordiga were men of high minds and very wide culture. They were, above all, professors who knew how to make their students love their work. But both of them were men of technical studies, the one an engineer, the other a doctor of agriculture, that is to say they came from schools where the science of economics was not at that time taught even in an elementary way. For them, and especially for my teacher Vittorio Niccoli, agricultural economics was more a technical study than an economic one, and in any case completely dominated by the goal of the private profit of the farmer—the study, in other words, of the best coordination on the farm of the factors of production for the purpose of private gain of the farmer. This was the tendency in other countries. It was the *Landwirtschaftliche Betriebslehre* of the Germans, the *Economie de la ferme* of the French.

I must add that everything which was done in Italy at that time in the field of agricultural economic studies, was the result of purely individual efforts, in an atmosphere where industrial and commercial capitalism was developing and the best energies were being given to it.

The professors of agricultural economics had no assistants, no financial grants, not even the most modest scientific equipment. They are really to be admired, those who managed to work and to produce under such conditions, even if their point of view and their methods do not seem to us today entirely satisfying, as indeed ours will probably not seem satisfying to the generations which will come after us.

When Niccoli passed from the Chair of Milan to that of Pisa, more than thirty years ago, I became—although too young—

his successor, and with an excess of youthful daring (and perhaps I should say, impertinence) I began to maintain that the studies of agricultural economics must change their direction; that it was not admissible to be agricultural economists without being first of all economists (as a matter of fact, I was very little of one myself); that agricultural economics, in short, should be applied economics, and therefore must be, first of all, economic science even if it does imply also the knowledge of the technical aspects of agriculture.

I remember with affectionate gratitude that my master Niccoli, instead of being angry at these ideas of mine, encouraged me in them. Being a man of high intelligence and exquisite goodness, perhaps he held to the saying of some philosopher, that the best pupil is the one who denies his Master. I was likewise inspired by Ghino Valenti who encouraged me with his constant and affectionate benevolence.

Those were the years of great social and political battles in Italy, carried by socialism into the countryside. I dedicated myself most especially to the enthusiastic study of the relations between farmers and farm laborers. I had the good fortune to find, in Milan, institutions which placed at my disposal considerable financial resources, which are otherwise completely lacking.

In 1907 the Chair of Agricultural Economics of the Agricultural College of Perugia was filled by a valiant colleague, Professor Ernesto Marenghi. He, also, felt the necessity of closely connecting the study of agricultural economics with that of political economy and that of statistics, in the use of which method he was a capable scholar. Unfortunately he was quickly taken from us by death.

To the little group of economists who made agriculture the object of their studies, a few others were added, in those years. I recall Emanuele Sella in the brief period when he taught at the Agricultural College of Perugia, and Giovanni Lorenzoni, both of whom afterwards held University Chairs of Political Economy. Then came the War, and we, all of us, had something else to do.

I have wished to recall all this to make clear the Italian position in the study of agricultural economics, on the eve of the birth of the National Institute of Agricultural Economics.

Immediately after the war, in 1919, I was entrusted by the Ministry of Agriculture with the conduct of an inquiry into the very serious agitations which at that time were shattering the Italian rural world. At the same time, the Italian Federation of

Agricultural Cooperatives—on the initiative chiefly of Emilio Morandi, a highly intelligent and enthusiastic man, who was the Director-General of the Federation—nominated a Commission of Studies, from which the few students of agricultural economics drew encouragement and financial means for their activity.

But, when I reported in 1920 on the results of my inquiry—being convinced of the incompleteness of what had been done up to then, in a fragmentary, disconnected way, not sufficiently systematic and organic—I wrote: "There is greatly felt the necessity for researches in agricultural economics, which in class-competition may provide the contending parties with a basis of positive knowledge. Such researches will become indispensable also for those judgments of equity which recent legislative measures have ordered in the case of group conflicts. It is hard to understand, in fact, how such judgments can be given without a positive knowledge of the economic organization and the outcome of the various technical-agrarian systems." And after having remarked that these are very delicate, difficult researches which demand adequate scientific preparation and specialization, I concluded by proposing the creation of an organization which should not be exactly a State organization, but a separate institution, which—keeping itself in close coordination and collaboration with the chairs of agricultural economics of State Institutions and with other local institutions—should promote and direct the necessary research work in agricultural economics. "The nucleus of such an organization," I said, "exists already in the Office of Agricultural Statistics. This Office could perform in an excellent manner the other tasks indicated in addition to its normal statistical tasks, if expanded to function as an observatory of agricultural economics and provided with the necessary especially trained staff."

Professor Brizi, who was then in the Ministry as General Director of Agriculture, certainly desired that my proposal should be accepted; but who, among the men in the Government at that time—which seems so long ago and yet is only fifteen years ago—would condescend to give it more than a smile of pity?

Ghino Valenti—to be able to effect a serious reorganization of agricultural statistics—had to implore, almost prostrate himself before I don't know how many Ministers; and then, long before having completed his proposed task, had to abandon his post, disillusioned and embittered. A few years later he died.

Then came a period full of historical events for Italy; the Fascist March on Rome took place. A few months after, in the

summer of 1923, the Duce did me the great honor of asking me to become Under Secretary of Agriculture in the Ministry of National Economy, then formed by the merging of three Ministries, Agriculture, Industry and Labor.

And it was only then that I was able to obtain from Alberto De Stefani, Minister of Finance—and in a period when he was engaged, with extreme energy and memorable success, in the putting in order of the very unbalanced Italian budget—a grant of about forty million lire for a *Foundation for Experiments and Agricultural Research*, whose aims were determined, by a decree of December 30, 1923, as follows:

a) to give contributions to Government institutions for agricultural experiments, to encourage a greater development and an opportune coordination of the activity of those Institutes;

b) to provide the necessary means for the operating of an Institute of agricultural economics and statistics, having as object the collection of economic and statistical facts of the conditions of national agriculture.

This second part was the realization of my proposal of three years before.

In October 1924 the Institute of Agricultural Economics and Statistics was granted by decree its first statutory organization, on the basis of three bureaus: 1) Agricultural Statistics, already existing at the Ministry and absorbed by the new Institute; 2) Forestry Statistics; and 3) Agricultural Economic Research.

In 1926 the Central Institute of Statistics was created and in the summer of 1927 the Bureaus of Agricultural Statistics and Forestry were transferred to it. The tasks of our Institute were thus limited to research work in agricultural economics. In 1932 the foundation capital mentioned above was divided into three parts, among the Institutions of Agricultural Experiments, the Central Institute of Statistics, and the National Institute of Agricultural Economics, which therefore has today its own separate capital of eighteen million lire.

From what I have said it is obvious that it was not easy to start the life of the new Institute. At that time the little group of those who were scientifically ready and available for research work in agricultural economics was extremely small. In the first years after the war, Giuseppe Tassinari, formerly Professor of Agricultural Economics at the Agricultural College first of Perugia then of Bologna, now Under Secretary of Agriculture, joined this group, contributing works of great value. A little later

Alessandro Brizi left the Ministry and went to the Agricultural College of Portici. But we were always few, and in a period of such enthusiastic renewal of the Nation and of the State, almost all of us were occupied in public life.

The revolution which took place, and is still taking place, in the whole structure of Italian political and economic life, presented and is still presenting our Institute with new complex problems regarding its scope of work and its relations with the other organs of the national life, amongst which it is sufficient to recall the highly equipped syndical and corporative organisms.

Those changes in the internal organization of the Institute, which I have mentioned, even though justified, were not helpful in the early years. They were the cause of somewhat retarding a full and normal functioning. We tried gradually to conquer our difficulties in the best way. We tried and are still trying continuously to harmonize the work of the Institute with the new and greater demands. Just in these last few months we have introduced some notable improvements in the working of the Institute.

I shall tell you briefly, without going into details, the principle we have followed and how the Institute functions today. In the first years the predominating thought was that of educating, if I may so express myself, new youthful scholars in our branch of study. I may say that the Institute has fulfilled this initial task. Originally, the Institute was created (as regards the researches in agricultural economics, apart from the statistical tasks then forming a part of it) to be chiefly an organization for coordinating and financing independent "observatories" formed within local institutions and receiving a part of their financial support from them. However, inquiries and studies carried out directly by the Institute, with its own central staff, or with the temporary collaboration of professors chosen outside its own ranks, were not in principle excluded. But the main activity was to come from these local observatories, as soon as they acquired an adequate efficiency. In this way arose the first observatories of agricultural economics at Bologna, Florence, Milan, Portici, directed by the professors of agricultural economics of those Agricultural Colleges: one arose also in Palermo, which had its offices in and received financial aid from the Bank of Sicily.

It was in fact at these observatories that—with the appointment of assistants and scholarship holders, and with the financial means of the Institute—a group of excellent young men has been formed, who are today well prepared for research work in agricultural economics. Through the observatories of Milan, Bologna

and Florence have passed the young men who have valiantly conquered three of the Chairs of Agricultural Economics of the Agricultural Colleges: Professors Pagani, at Milan, Medici, at Perugia, Tofani, at Pisa. In addition to these, a notable number of other young men, like Professors Perini, Camparini, Bandini, Passerini, who are already university professors, have come to strengthen the ranks of Italian students of agricultural economics.

In accordance with the progressive unitary centralization of national life—which is one of the characteristics of Fascism—and also on account of the scarcity of the financial aid which is to be found locally, the aspect of these outside organs of the Institute is being gradually altered; although their structure is not identical, because it was not wished to lose completely local financial assistance and connections, we may affirm that today, generally speaking, they have the character of branch offices of the Institute, without an existence separate from that of the Institute itself.

These branch offices may be divided into two categories:

1) the Observatories, or sections thereof, whose management is entrusted to the professors of agricultural economics in the Agricultural Colleges, of which there are five, at Milan for Lombardy, at Bologna for Emilia, at Florence for Tuscany, with a section at Pisa also for Sardinia, at Perugia for Umbria, the Marches and the Abruzzi and at Portici for the Campania;
2) the Correspondence Offices, whose management is entrusted to the staff of the Institute. There are four of these: at Turin at the Institute of Agrarian Credit of that city, for Piedmont; at Verona for Venetia; at Rome, with offices at the central Institute, for Latium; at Palermo, at the Bank of Sicily, for Sicily.

Not the whole of Italy is covered in this way, but the net is spreading, and I believe that in a few years it may be complete.

Aside from the ten Directors of Observatories or sections of Observatories, and of the Correspondence Offices, there is an additional scientific staff, appointed by the Institute, or holders of scholarships granted by the Institute itself. This staff is divided between the central office and the previously mentioned branch offices. In all, there are 14 persons of this character entirely at the disposal of the Institute.

In this way, with a group of 24 persons, specialized in research work in agricultural economics—to whom may be added five as-

sistants to the professors of agricultural economics, whose activity is subsidiary to that of their professors, and therefore naturally dovetails with that of our Institute—we now have the possibility of carrying out a considerable development of our researches.

Fascism, in accordance with its social and political ideals, has placed rural life in the forefront of the life of the Nation. We are also going through a period of grave economic difficulties. It is very natural, therefore, that everyone in Italy should feel the necessity of agricultural economic research, and that the most varied categories of organizations and persons should dedicate themselves to it. In particular, Ministries, syndical organizations, corporations—in an economic life systematically disciplined for the good of the State, as is the corporative economy—feel, and must feel, this necessity.

The Institute is at the disposal of all those who want to benefit by it. It has the satisfaction of receiving financial assistance—apart from the Ministry of Agriculture, under whose supervision it is, and who gave it life and the means of existence—also from the Ministry of Corporations and from the Fascist Confederation of Farmers. The Institute however desires to continue to work in a purely scientific field, not, of course, in the sense of an activity separated from life and therefore sterile, which would be far from our thought and from our Fascist faith, but in the sense of an activity which, although serving life, applies scientific methods, and always looks beyond that which is transitory, towards the deep and permanent demands of the Fascist national life. I say of the *Fascist* national life, because we do not believe in the opportuneness or in the possibility of isolating science from the historical ideals of the nation.

The Institute's programs of study are annually submitted for approval to the directing Committee. They are, however, now prearranged with the collaboration of a scientific committee, consisting of all the professors of agricultural economics of the agricultural colleges. The results of the studies—after revision by the said committee—are published in the series of the publications of the Institute, if they are of national interest. If, on the other hand, they are chiefly of local interest, they are issued in publications of the individual Observatories or Correspondence Offices. Some Observatories collect them into Yearbooks.

This is the organization and the method of working of our Institute. While I have had the honor to be its President from its beginning, I have always been cordially assisted by all the

members of the directing Committee. Their Excellencies De Stefani and Tassinari, Professors Brizi and Coletti, the Director General of Agriculture, Commendatore Mariani, the head of the agricultural statistics division of the Central Institute of Statistics, who is now Commendatore Mazzocchi Alemanni. His Excellency Tassinari and Professor Brizi have always been particularly close to me, with their work and their advice.

I should like to outline briefly the studies completed up to the present. The Institute's publications commenced with a *Guide to Agricultural Economic Research Work*, by myself, intended for the information of young students. It also had the object of trying to establish a relatively uniform nomenclature regarding our studies. Everyone knows what difficulties are created in economic science by the lack of terms whose meaning is strictly and uniformly determined. We have, if not eliminated, at least attenuated such difficulties.

The greater part of the other publications tends to give a deeper knowledge of the Italian agricultural economy, both at particular moments and in its general movements through a period of time, both as a whole and in its particular aspects, keeping in mind not only the theoretical aim but also the practical one, that is—as our Statute says—with particular regard to the requirements of agricultural legislation, rural administration and the agricultural classes in their syndical relationships.

Whatever may be the method followed in our studies (and we do not intend to bind our Institute to one method rather than to another—the method of induction from facts or the method of deduction whose results seek their confirmation in facts) and whatever may be the conception we have of economic science, whether as a *contemplative* science, which is limited to taking note of what *is* and to presenting it in forms which satisfy the demands of our minds for knowledge, or as a *guiding* science which uses what *is* to show us also what *must be* for the accomplishment of certain ends (and I confess that, in disagreement with the majority of economists, I hold the latter conception, because I think that the reality of human life is quite another thing than the reality of nature) the knowledge of *economic reality*, or perhaps I should say, of *economic activity*, is always the necessary point of departure.

The Central Institute of Statistics, with the land survey, with various censuses, with the service of annual agricultural statistics, makes a purely statistical contribution. We, of the National

Institute of Agricultural Economics, being thoroughly convinced that numbers are very far from exhausting the knowledge of facts (and I personally, being convinced that many of the most interesting and characteristic aspects of rural life are not capable of statistical treatment) are attempting to bring into our studies the sociological and historical point of view.

In the division of tasks between the Central Institute of Statistics and our Institute, there has been assigned to us the task of the collection and the elaboration of farm accountancy data, in accordance with well-known international initiatives.

After this I will mention:

1) A full inquiry into the relationships between property, enterprise and labor, carried out in each geographical division. In Italian agriculture these relations are extremely complex, overlapping, coordinated and combined in the most varied and interesting ways. For the completion of this work there is only lacking a final synthesis which I have myself undertaken.

2) Another inquiry made geographical division by geographical division on one of the most important phenomena of the Italian agricultural economy in the post-war period, relates to the growth of landownership on the part of small farmers, which has increased by not less than 700,000 or 800,000 hectares. Here also the only thing wanting is a final synthesis, which is to be carried out by Professor Lorenzoni.

3) Again in this intensely interesting subject of the relationship between agricultural classes, some special investigations have been made, for the purpose of going more deeply into some aspects or periods of special and immediate interest, including an investigation by Professor Pagani on the agricultural laborers of the Po Valley (our Institute was requested to do this by the Ministry of Corporations), a study by Prof. Brizi on the profit-sharing of the agricultural laborers in some southern regions, and shortly to follow a study of Dr. Bellucci on the Tuscan laborers.

4) The desire to know intimately the life of our land-workers—because we do not forget the great words of the Duce that work is the subject not the object of economy—has suggested to us a series of studies of peasants' families, for the various regions and the various categories into which they are divided. Seven booklets have already been published and the inquiry is continuing.

5) One of the most painful problems for us is the depopulation

of the mountains; painful especially for us Fascists who give a predominant importance to demographic phenomena, and for us who deeply feel the truth of the immortal verses of D'Annunzio: "Montagne madri, sacra scaturigine delle forze pure" (Mother mountains, sacred source of pure force). An inquiry into this regrettable phenomenon is in progress with the collaboration of geographers. Five volumes on the Alps of Ligury, Piedmont, Lombardy and Trento and on the Apennines of Tuscany and Romagna have already been published or are on the point of being published. Investigations into the Venetian and Julian Alps are being carried out.

6) The land reclamation plan is of fundamental importance in Fascist agricultural policy. The Institute has brought and is bringing to it a contribution of studies by means of economic monographs on reclamation (two volumes have been published, one by Professor Ronchi, on the reclamation at Cavazuccherina in Venetia, and one by Professor Tofani, on the reclamation in the Maremma of Tuscany) and by means of the economic study of particular aspects of the land reclamation plan (a full inquiry into the new rural buildings which have arisen in Italy in the last few years is in preparation, and already seven volumes have been published; and investigations into the economy of irrigation are being carried out, with two volumes already published).

7) The Institute is carrying out investigations into the crisis which has affected agriculture, and on its effects and on the problems which it presents for the chief Italian agricultural products. A volume by Professor Bandini on rice growing has been published. There are in preparation volumes on industrial plants (beetroot, hemp, tomatoes), on milk, silk worms, citrus fruits, and olives.

8) Passing over other minor studies of the national series, and all those of a local character, amongst which there are some of remarkable value, I should like to draw especial attention to the farm accountancy statistics. In this regard we have taken into account what has been done abroad; we have indeed published a work of Professor Perini on the organization of the farm accountancy offices in Germany and are about to publish another on the Bohemian offices. But I must say that the methods followed by us correspond to ideas somewhat different from those followed elsewhere. The path has been opened up for us by the fundamental investigations of Professor Tassinari on the size and distribution of agricultural incomes in Italy since the War.

The method pursued by him is that of finding out what the agricultural incomes are in the various periods, by means of the collection of accountancy data of *representative farms,* carefully selected. Our Institute is using this method. We do not believe, at least under the conditions of our agriculture, in the possibility of collecting *mass data* sufficiently accurate for the application to such data of the purely statistical method. We do believe in the possibility of conscientiously gathering the data of sufficiently representative farms, whose selection is therefore a matter of extreme care and continuous improvement (today we have under control about 150), for the purpose of obtaining from the total of data thus collected a fairly close index-figure showing the trend of incomes in Italian agriculture. This end has not yet been attained. We are trying gradually to get closer to it. Still less do we believe in the possibility of determining—when the crops on one farm are numerous, and especially if in rotation—the costs of production for each crop, so that they should be of any use. We are satisfied with the discovery of the farm income, and in discriminating—when advisable—between the various categories of persons who receive it. And we try to avoid as much as possible placing side by side *real money values,* that is to say those given us explicitly by the market, and *calculated values,* that is to say attributed values, which cannot have a precise meaning except when they serve for the solution of specific problems, and which, if presented in a generic way, give rise to erroneous and equivocal interpretations. Up to the present we have published two volumes, for the two-year periods 1929-30 and 1931-32; these are especially the work of Professor Perini at our head office. Furthermore, in a few months a volume by Professor Tassinari will come out in the Institute's series, in which his previous researches up to 1928 are continued until 1932 for a considerable number of farms.

9) Lastly I must not fail to refer also to another work of considerable scope, which is about to be undertaken by our Institute. The Central Institute of Statistics is publishing the "Land Survey of the Kingdom of Italy," a detailed organic statistical representation of agricultural production, at a given moment. In connection with the above, our Institute is about to publish monographs on the agricultural economy of the different geographic divisions. The first of these, for Umbria, is already in preparation by Professor Medici.

It is natural that, in a period of formation, not everything

that has been done should have given satisfactory results, especially for anyone whose mind is more critical than constructive. He who wishes to build must know sometimes, in my opinion, how to be content with the imperfect. But there is no doubt that what will be done in the future will be better than what was done in the past.

To me, with my vivid recollection of what our studies were a few decades ago, the road travelled seems very remarkable. But the younger generation *must not* consider it satisfactory. On the contrary they must believe that what has been done is little or nothing in comparison with what is still to be done. In order to progress, we must place our goal always higher and further away.

THE FIELD OF AGRICULTURAL DATA

WALTER H. EBLING
AGRICULTURAL STATISTICIAN, WISCONSIN

The ever-growing requirements for basic data in agriculture, particularly those which have recently arisen out of the emergency situations and emergency programs, continue to call attention to the need for greater development and for further coordination of existing resources in this field. Wider uses of existing data on agriculture by federal agencies, such as the Agricultural Adjustment Administration, and the Farm Credit Administration, as well as in state programs, or in the efforts to mitigate drought problems, have strongly demonstrated these needs. Experience with the state and county data which were used to establish quotas for the agricultural adjustment programs left little doubt as to such needs in the minds of those who struggled with the problems. Work which had to be done in the agricultural adjustment administration programs was often done with a knowledge that the data used were not developed with such a purpose in view and hence they were sometimes inadequate. Even so, these efforts have worked out much better than some observers expected.[1]

That these new needs and the increasing emphasis placed upon primary data in agriculture will bring new developments which may definitely affect the field of Farm Economics appears quite certain. In fact, it seems odd that work in the data field has up to now had so little direct attention on the part of institutions working in Agricultural Economics. The growing demands for data have now combined to throw an impressive extra load of work upon existing statistical organizations in agriculture, and more particularly those associated with the Division of Crop and Livestock Estimates of the Bureau of Agricultural Economics. Resources available for the work have been taxed to the limit in the past few years and there is now a great need for more personnel and facilities.

The collection of agricultural statistics by such organizations as the Census Bureau, the Division of Crop and Livestock Estimates, and in some cases, by state statistical agencies usually in the form of enumerations through assessors or other reports required by state laws, such as reports from dairy plants, etc., is among the oldest of public functions in agriculture.[2] In addition,

[1] Tolley, H. R. and Black, J. D., JOURNAL OF FARM ECONOMICS, Vol. 16, No. 3, p. 447.
[2] Callander, W. F., The Crop Reporting Service of the United States Department of Agriculture, mimeographed 1927, and U.S.D.A. Miscellaneous Publication No. 171, The Crop Reporting Service of the United States.

some important and widely used data are collected as by-products by processors and common carriers who handle farm products. These sources have developed gradually over a long period, and in the past as now, progress has frequently come as a result of special needs arising out of new and difficult situations.

The collection and publication of agricultural data has grown to a point where state data on crops and livestock are regularly issued in federal publications. These not only cover production, prices, and value estimates of crops, livestock and livestock products, but in recent years they have included data on the disposition of products and estimates of state farm income. The regular duties, many of a routine nature, which lie back of the material now published for all states devolve very largely on the nation-wide organization of the Division of Crop and Livestock Estimates. Data by subdivisions smaller than states, other than the census, have usually been left to the state statistical organizations, though county estimates had to be made for some of the A.A.A. programs. Where the state offices have developed sufficiently, annual estimates of acreage and production for the more important crops and livestock together with prices and values are usually published by counties. Such data have been most satisfactory where they were based on some type of state census such as reports of assessors. The internal use made of county data by state agencies is surprisingly large, and where these data are to be had by the smaller subdivisions, they have been widely used. In a number of states, however, the resources have not been available to permit much of this state work.

Up to the World War most of the agencies gathering agricultural statistics worked in large part independently. The Census Bureau collected its data once in ten years, and the Division of Crop and Livestock Estimates, using the census totals as basing points, made current estimates between the census periods. In this process the Division of Crop and Livestock Estimates gradually established a nation-wide organization with field offices covering all states. Originally these field organizations developed independently of the state statistical agencies already existing in some states where attempts were made to collect agricultural statistics by the state government. It remained, however, for the urgent demands of the World War period to bring about definite cooperation between state statistical organizations and the field offices of the Division of Crop and Livestock Estimates. W. F. Callander, then Agricultural Statistician for Wisconsin, and C. P. Norgord, Commissioner of Agriculture for that state, both

pressed by demands for agricultural data under war time needs, pooled their resources by combining the federal and state agencies into a cooperative unit. This resulted in the first cooperative agreement in any state for work in agricultural statistics between the Division of Crop and Livestock Estimates and a state statistical organization. The soundness and economy of this development were apparent from the outset, and 34 other states have since established similar cooperation.[3] Much duplication of effort has been removed, and improved work has resulted for both the states and the federal agency. Marked technical progress has been made in the field and the work in general has been greatly strengthened since many of the state and the federal workers have gotten together. Somewhat more resources have become available and the bodies of available state data have been greatly enlarged. This development was especially rapid in the period just after the World War.[4]

Under the stress of recent and present needs, demands have developed which it seems must bring still further advancement in this field. General programs of coordination have already been offered.[5] Dr. Black's suggestion that a strong central statistical office for agriculture be developed in each state, which would serve the Division of Crop and Livestock Estimates, the Census Bureau, the State Departments of Agriculture, and the state colleges, undoubtedly merits consideration. Such a program, if it can be developed may well be another forward step which would make for further progress similar perhaps to that which has already arisen out of the existing cooperative efforts, all of which have come since 1916. It is of interest to note that the federal-state cooperation so far developed in this field has been almost entirely due to the leadership of the Division of Crop and Livestock Estimates in its carefully nurtured relations with state organizations. That this cooperative arrangement with the states has been a major help to the Division of Crop and Livestock Estimates as well as the states is certain. In addition to making available for use in the federal work any existing state records such as assessors' reports, dairy reports, and other state data; the cooperating states also provide personnel, office space, equipment, and other facilities in varying amounts. In 1932 the state budgets for this purpose contributed about $175,000, the largest amount

---

[3] *Ibid.*

[4] Benedict, M. R., JOURNAL OF FARM ECONOMICS, Vol. 16, No. 3, p. 460.

[5] Black, J. D., JOURNAL OF FARM ECONOMICS, Vol. 16, No. 3, p. 452, Tolley, H. R., and Wells, O. V., A Plan for the Coordination of State and Federal Activities in the Collection of Agricultural Statistics, a paper read before the American Statistical Association, Chicago, December 29, 1934.

of state work being in California, North Carolina, New York, Alabama, and Wisconsin. The cooperative relationship between state and federal organizations in agricultural statistics has, however, meant more than just larger budgets, personnel, and improved physical facilities. In some of the enlarged offices it has been possible to combine the sources of data and the good will, which were formerly somewhat divided between state and federal agencies, and because of the stronger offices better technical and mechanical methods could be employed. With more employees, a greater division of labor has been possible resulting in more efficient work and a combined output more effectively published, and more widely useful. As the work of such offices has improved and demonstrated the soundness of this cooperative arrangement, it has been somewhat easier to obtain state support for the local phases of the work and it seems quite clear that in the matter of agricultural data the public has been served better and at a smaller combined cost by these cooperating state and federal agencies.

Last year there were 26 states in which the Division of Crop and Livestock Estimates had cooperative relations with State Departments of Agriculture and/or Markets, and eight states[6] in which such relationships existed with state colleges or experiment stations. In none of them, however, does the existing cooperative arrangement embrace more than one state organization. If the strong centralized agricultural statistical organizations in the states, which can be visualized in Dr. Black's proposal,[7] are to develop it could well mean the further combining of the statistical efforts of additional organizations in the support of an efficient and comprehensive central state statistical unit from which all should get perhaps better and more complete data. Obviously, if such a movement develops it will come much more easily and be more advantageous in some states than in others, partly because of the geographical location of those existing organizations which might logically be expected to participate in such arrangements and partly because of the present status of the work in the different states. If, for example, such a state office were cooperating with the Census Bureau also, and could obtain copies of the United States Census schedules or the cards punched from these schedules, the basic data available for use in the state could again be immensely expanded. The retabu-

[6] The Crop and Livestock Reporting Service of the United States, Miscellaneous Publication No. 171, U.S.D.A., November, 1933.

[7] Black, J. D., JOURNAL OF FARM ECONOMICS, Vol. 16, No. 3, p. 452.

lation of such material on a township basis would help greatly, especially if the units tabulated could be sorted by size groups and then tabulated perhaps on a basis such as type of farming areas or soil regions. Vast amounts of data have been collected on census schedules which could not be made available for use in the states in sufficient detail. Most items have been published only on a county basis which conceals many significant characteristics of the data because counties like states usually are not homogeneous. Totals by soil areas, farming-type areas, or economic regions in which the township data might be combined could be most stimulating in many cases. To be sure, such work would perhaps require that substantially increased resources be assigned to it, but it would probably open up some new phases of work in Agricultural Economics which might help, considerably in such projects as state outlook work—state planning—and perhaps in some of the work in farm management. Certain outright duplication of effort still existing might also be avoided by having some of the state work of the census associated with a state statistical office. For example, the census reports on dairy manufactures obtained from dairy plants every two years covers much of the material collected annually on the schedule of dairy manufactures sent out by the Department of Agriculture. All of these data could be gotten on a single schedule which might serve the State Government, the Department of Agriculture, and the Census Bureau.

The far-flung organization of the Division of Crop and Livestock Estimates, with its huge capacity for the collection of current data, now probably constitutes the largest economic sampling machine of its kind in the world. Some notion of the size of the undertaking may be had from the fact that the organization now has over three hundred workers and handles something like fifteen million pieces of mail annually. Its capacity for bringing together at regular intervals certain basic data from widespread sources has grown amazingly. While the data on crops, livestock, prices, and other items now being collected already serve many purposes, it seems clear that the possibilities are as yet only in part utilized. More data can readily be obtained if needed, but equally important perhaps is the need for greater analysis, more detailed publication, and wider use of the material now being collected. More extensive analysis and more detailed publication of existing material, together with its more extended use in schools, by research workers, in outlook work and state planning projects, constitute a field in which sooner or later much more

will doubtless be done. Few appreciate fully the wide range of sources already being covered by the Division of Crop and Livestock Estimates and its associated state offices in the gathering of primary data. Thousands of crop reporters, dairy reporters, livestock reporters, and price reporters regularly supply the needed information. In addition there are numerous special lists covering localized industries or minor crops, as well as cooperating commercial institutions such as dairy plants, packing and canning plants, railroads, stockyards and others. These, together with the assessors, and rural mail carriers, already used in the regular collection of information constitute a singularly powerful body which has become well established. The drought surveys of the last few years showed how effectively the organization can photograph the entire country on short notice. However, the volume of work has grown to a point where the quality of its output is jeopardized, unless the resources for it grow correspondingly.

If as a supplement to the established census enumerations now being made by both federal and state agencies, and the sampling operations already being regularly conducted, the additional step of an annual sample census of parts of states, such as proposed in the Buchanan Bill,[8] should develop, the data growing out of such a venture could readily serve quite directly all of the organizations now using basic agricultural statistics. If this bill is enacted it will provide a new stimulus for cooperative effort in state agricultural statistics. Even the work of the states may be coordinated and regional data become more fully available. It is believed that by taking annually a detailed census of selected areas —perhaps selected townships—the trends in agriculture after a regular census could be readily established. In addition such partial enumerations could go into more detail on some items than the regular census schedule, because with the greatly reduced volume the data could perhaps be handled in more detail. Such enumerations would therefore serve to measure the changes or trends from the census base and also provide a means of breaking down the census data somewhat beyond the refinement now possible.

A look at probable needs which are likely to prevail for agricultural data if extensive agricultural planning on the part of government agencies is to continue, suggests various possibilities.

---

[8] The method was suggested in 1925 by John B. Shepard of the Division of Crop and Livestock Estimates, B.A.E. It was formally introduced as a bill in Congress by Mr. Buchanan in 1929. The Buchanan Bill in the 74th Congress was introduced April 30, 1935, as H.R. 7805.

At present, the Division of Crop and Livestock Estimates in the Bureau of Agricultural Economics is the only large organization with nation-wide facilities dealing with current agricultural data. The field offices of this organization already cooperate widely with State Departments of Agriculture and/or Markets, and in some instances with state colleges or experiment stations. Direct working relationships with the Agricultural Economics Departments have, however, been limited. Apparently, some of the pioneers who in the early days organized Departments of Agricultural Economics did not look upon the field of agricultural data as one likely to become an important branch of the general field. Seemingly, at least, this is evidenced by the fact that in most states the field of agricultural statistics has been left largely to State Departments and in only a relatively few cases has it become a direct function of Agricultural Economics Departments, and in some of these it may have occurred by mere chance rather than from much planning. Just why more was not done in this branch of the field by some of the early Farm Economists is not clear. Perhaps they looked upon the data available as adequate, or they may have thought that nothing further could be done about the matter with the resources available. At any rate, while the Division of Crop and Livestock Estimates of the Bureau of Agricultural Economics is clearly one of the strongest divisions of that bureau, the field of data has not been comparably developed elsewhere.

As a result, there is little work being done in the training of men directly for this field by state organizations, even though majors in Farm Management, Marketing, Agricultural Finance, Rural Sociology, Land Economics, and perhaps others have been common. Attempts to provide work in prices and statistics have sometimes been associated with other branches such as Marketing or Farm Management. The problems involved in making dependable current estimates of agricultural production have had surprising little academic attention. Under the pressure of present needs a definite development of work in agricultural data, on a basis perhaps not unlike the other branches in the field, seems to be needed. Up to now existing courses have not aimed directly at the well established Crop and Livestock Estimates function as they have at other recognized branches of the Farm Economics field. Men majoring in various lines have been drafted into the agricultural statistical service, and usually they have had to get most of their training in connection with their employment, when a much larger portion of it might well have been in-

cluded in their earlier preparation. Some direct contact with primary agricultural data and the problems which are encountered in that field before students take their courses in formal statistics should help greatly. Some of the state statisticians could probably render service on this problem provided they could find a little time for it in their already overloaded schedule. A number of these men would no doubt be glad to take an active part in such a movement for which they have so much laboratory material. Eventually such a development might also change the attitude regarding data which the agricultural statisticians sometimes encounter in other agricultural workers. In the past there has been a tendency on the part of some workers to look upon any data they could locate almost anywhere as a free good. As one excellent technician put it; they used the statistician's office as a "gravel pit." There are instances where the output of the statisticians has been woven directly into the work of others with little or no recognition or credit for those who labored so long and faithfully to make the data available. To give the technical men in the data field proper credit for their contributions when used would seem to be good scientific technique as well as good sportsmanship and undoubtedly a better general understanding of the data field and its problems would be helpful in that regard.

In addition to the Division of Crop and Livestock Estimates various organizations in the states now have some of the facilities and resources which can be used to develop further the agricultural data field provided the resources can be made available. If a central state statistical office can be established which is strong enough, perhaps three-way cooperation, in states where that may seem feasible, might yield more results than the two-way arrangements so far achieved. State Departments of Agriculture quite commonly control assessors' reports, as well as reports of dairy plants, canning factories, cooperative associations, etc. Through the police power vested in such departments the collection side of the cooperative state statistical organizations has been strengthened. Also such departments have in some states developed well-known series of statistical publications which are widely used. Indeed, the functions of state departments in this work seem to be well established. A number of state colleges through Agricultural Economics Departments prepare outlook material and also other data for the extension workers. Often colleges and experiment stations have facilities which might be used to assist further in the analytical work needed in the data field. Detailed regional data built up from township

material might make certain phases of extension work, outlook work and regional planning much more specific than has been possible with only the county data now available.

It would seem that perhaps one way of strengthening the agricultural statistics field for the nation may come from more effective teamwork of state workers dealing with problems in their states. In any such development the primary data already being collected, and the basic organization established by the Division of Crop and Livestock Estimates must doubtless form the foundation upon which further progress is built. Likewise, if the work in the states can be further strengthened and enlarged, the Division of Crop and Livestock Estimates is probably the agency which must be most largely depended upon for national or regional coordination. A strong central state office for agricultural statistics properly staffed and equipped and serving the various agencies might well form the nucleus around which new work based upon detailed state data could develop. Not only could the geographic data be thus centralized but most of the significant time series of interest in the state could be maintained and perhaps published in such a unit. Such a combination might well be a distinct economy over the method of maintaining small and scattered statistical units at various places in a state, many of which are likely to duplicate certain items and omit entirely other work which could well be included. The efforts of maintaining scattered and partial statistical units usually on the part of individuals must amount to a large item in the aggregate yet it has offered but small chance of dealing properly with a rapidly growing field. The tendency to have primary data located at various points in a state where there are many departments probably cannot be fully overcome, but more definite efforts to bring essential material together in a central agency together with as much as possible of the machinery for collection, analysis, and publication of data should be helpful in keeping the rapidly expanding body of material in more usable form.

If the demands continue to grow, more coordinated attention must assuredly be given to primary data in agriculture. In some of the states the field may well be set up on a par with the other branches of Farm Economics now established, and perhaps this can best be accomplished through a central state statistical office for agriculture as suggested by Dr. Black. It would seem, too, that a more general development of the data field might prove a very effective link between the more theoretical aspects of Agricultural Economics and some of the practical tasks recently

thrust upon the farm economists. Even though it was seemingly overlooked by many of the early builders in Farm Economics, the data branch of the field may yet become a keystone of the arch—tending perhaps to close the gap between our bodies of theory and those confronted with agriculture's more practical problems. Certainly it would seem that those who have worked through the data problems in the various agricultural adjustment programs, such as wheat, corn and hogs, and cotton can hardly help but come more and more to this point of view. Likewise those who have dealt with outlook problems, and who more recently have perhaps been associated with regional planning activities have been similarly confronted with data problems. If the work in economics is to hold a high place as a science it probably must depend more and more on the output of the workers in the data branch of the field, and hence there seems to be an urgent need for further strengthening of this side of the subject.

TAX RELIEF THROUGH RATIONAL EXPENDITURE CONTROL[1]

HARLEY L. LUTZ
PRINCETON UNIVERSITY

The problem of tax relief has been responsible for innumerable plans and proposals. Some reformers advocate tax relief, paradoxically, through the development of new taxes, to be imposed on those persons or groups now insufficiently taxed, for the support of governmental services or governmental units formerly financed by other, presumably more burdensome taxes. Others seek relief through more liberal tax exemptions, particularly of homesteads, and by authorizing moratoria on tax payments. Tax rate limitation has its active, and none too scrupulous supporters. Especially in the earlier years of the depression, a popular remedy for heavy tax burdens was the wholesale, horizontal, indiscriminate slashing of public salaries and other expenses. Some state and local officials have evidently been willing to depend heavily upon subsidies and loans advanced by the Federal Government, even when the funds thus supplied had been obtained by financial methods of dubious validity. An ever popular device, also, has been the accumulation of floating debts to meet current expenses and the periodic funding of these floating obligations into long-term bonds, a process which creates temporarily the illusion of lighter taxation.

Some of the many tax-relief schemes and plans may have merit, if they were to be applied under proper safeguards; others are worthless, and a few are downright dangerous. Not many persons, as yet, have approached the problem of tax relief in a truly rational way. Still fewer are those who realize that this problem ante-dates the depression, and that it is likely to outlive the depression and the New Deal which is supposed to be curing it. In other words, the factors and causes which have produced the present tax burden are fundamental, and while the unsettled economic conditions of recent years have in some respects intensified the difficulty, these conditions have not produced it nor will the return to a more normal basis of economic activity provide a cure, although it may diminish the apparent pressure through the increase of ability to pay heavy taxes.

It is an elementary truth of public finance that the tax bill is the end product of a series of earlier decisions, acts and opera-

[1] This paper was read at the Twenty-fifth Annual Meeting of the American Farm Economic Association, Chicago, December 28, 1934.

tions. While there is much that can be done, through the revision of tax systems and the broadening of the tax base, to cause a more equitable, and therefore to some extent a less burdensome incidence of the community's tax bill, readjustments of this sort obviously do not and can not lead to any over-all reduction of taxation. Revision of the tax system, as an approach to the fundamental problem of tax relief, is therefore partly sound and partly inadequate. It is sound in so far as its purpose is that of providing an equitable basis for the apportionment among all of the citizens of such governmental cost as must be borne; it is inadequate in so far as it serves as an excuse for the continuance of a level of unwarranted governmental costs simply on the ground that the whole load is being more easily carried.

The thesis of this paper is that the most important problem in governmental organization and in financial administration is the elimination of the unwarranted governmental costs. In a certain ultimate and fundamental sense, taxation reform is of equal importance, to be sure; but expenditure control derives its greater significance from the psychological, political and fallacious economic obstacles to its realization. Nothing that has happened in the past two years has disturbed the validity of the proposition that economy rather than waste of wealth should prevail in a society that desires to advance the level of well-being of its members; nor have these events provided any basis whatever for the doctrine that wasteful use of wealth and resources is a good thing, *per se*. This doctrine, applied in the governmental field, would lead to the conclusion that all striving for governmental efficiency is not only futile but undesirable, and that it is generally advantageous for society to spend more than is really necessary in the provision of governmental services, since there is thus created additional jobs, employment, and, incidentally, votes for the ruling regime. Despite all of the prattle about the age of abundance and the supposed abolition of the era of scarcity, wealth has not yet come to consist of free goods, and every dollar unnecessarily spent by government in the discharge of public functions is as much wasted as if a bonfire had destroyed the equivalent of the product of labor and capital.

In defending this position I am not concerned with the range of governmental services. That is, the test of a justifiable level of public expenditure does not involve primarily the question whether or not government should be performing a particular service, although even this aspect of the case may eventually become prominent if the field of governmental activity should continue to expand indefinitely. The argument at this point deals

with the cases in which the governmental structure, organization or procedure is such that its operations in any or all services involve greater expenditure than would be required to supply these services under conditions of more efficient operation. Beyond question, the defects of governmental structure and technique are the source of enormous wastes, and therefore of enormous amounts of taxes that need never have been levied if we had had the intelligence and the courage to deal with this problem. These are the bonfire wastes, the socially and economically indefensible wastes which are breaking the backs of taxpayers.

The task of discovering and eliminating such wastes can be most effectively discharged by developing a rational conception of expenditure determination and control. This is a difficult undertaking, and it is not made easier by the fact that notwithstanding the resistance to additional taxation, there is still greater resistance to those basic reforms and improvements in governmental structure and organization which would make the additional taxes unnecessary. Chicago and Cook County have been long-standing illustrations. The collapse of charter reform and the resort to special, and specially objectionable taxes in New York City is the latest demonstration of this point. It is rumored that Philadelphia and other cities are planning to follow the lead of New York along this line of least resistance. Nevertheless, there is another way, and the purpose of this paper is to indicate it, although necessarily in rather brief outline.

Reduced to its most compact and essential form, my suggestion is that we should apply, in the governmental field, some of the knowledge and some of the improvements that have been gained from the technological advance of the last generation with respect to the ways and means of securing economy of effort and efficiency of results; and that we introduce and use, in this field, some of the techniques and aids to greater efficiency which are now available. These facilities are widely diffused and their use in all private affairs has tremendously influenced every phase of social relationship and ordinary economic activity. While government has gone through the motions of utilizing some of them, the general result has been that of increasing governmental cost rather than of assuring less cost. For example, the great reduction of space and time brought about by the hard-surfaced highway and the high-speed modern automobile has not been generally utilized to widen the area of administrative jurisdiction, but simply to increase the public investment in "official" cars which are not always used for the public business. It is safe to say that no American city has reduced the number of fire sta-

tion houses, with the introduction of motorized fire apparatus, in a degree corresponding with the relatively greater coverage efficiency of the new machinery of fire fighting. In other words, while government has absorbed these devices and is using them, there has been almost no disposition to make the most of them as tools for increasing public administrative efficiency, and thus as a channel for increased savings to taxpayers.

I have elsewhere characterized public expenditure control as the "intelligent and purposeful determination of the amounts that should be spent for the several governmental services."[2] The assumption inherent in this definition is that the amount to be spent for any service shall be determined by a rational analytical process rather than by accident, precedent or political manoevering. Under this conception of expenditure control the amount spent for any given service may be large or small, and I would particularly emphasize that the use of the word "control" is not intended to imply, inevitably, drastic reduction. It does mean, however, that the amount spent has been intelligently determined, and that a rational defense of the appropriation can be given. It is unquestionably true, in my opinion, that aggregate governmental costs can be substantially reduced by this substitution of intelligence for accident and inertia, and that much of this saving need not, unless desired, be accompanied by parallel reductions in the volume of services.

A sharp distinction should therefore be made between that condition in which a large expenditure occurred which no one could explain or defend on any better ground than that the spending officials said they could not get along with less, or than that it was based on the amount spent in the previous year; and that condition in which a large expenditure was made because the community or its officials had purposely and deliberately set a high standard of service, for the support of which a large expense was necessary. The first condition is uncontrolled expenditure, and whether the amount is large or small is largely accidental. The second condition is controlled expenditure, in the sense that the amount to be spent has been determined by preliminary intelligent and rational analysis of the service problem to be met.

An illustration at this point may serve to make the meaning clearer. In the case of the police service, for example, the number of men on the force may be determined by chance, by gradual accretion as the department head was able to increase his appropriation, by popular vote, or by the principles of job analysis.

[2] See "Preliminary Report of the Committee of the National Tax Association on Expenditure Control," in *Proceedings of the Twenty-sixth National Tax Conference*, 1933, pp. 200-212.

If the last method is followed, the first step would be to resolve the police service into its elements, such as protection, traffic control, crime detection, sanitary and vice regulation, and so on. The next step would be to determine upon the quality of service to be given under each type or element of the police function. In the case of traffic control, the number of points to be covered must be decided upon, and the period of coverage for each, whether twenty-four hours daily, the peak or rush hours only, school hours only, or some other standard. In the case of patrol duty, the frequency and thoroughness of coverage for the various zones, such as the retail, the industrial and the residential districts, must be settled. As a result of the whole analysis, a certain aggregate amount of police work to be done is established. This aggregate amount of work can be varied, according to the standards set—traffic control can be more or less complete; patrolmen can be given a beat to be covered every hour, once in three or four hours, or once in eight hours, and so on.

The third step would be to determine how much work one man can and should do during his shift, under normal conditions. The total amount of work to be done, divided by the amount one man can do in his shift, gives the answer to the size of the force. The margin of reserves for abnormal conditions is also capable of determination on the basis of experience.

Flexibility of expenditure can be achieved, under such a method, by varying the standards of service, and by providing conditions under which one man can accomplish more. If the standard for traffic control calls for complete coverage of each point for sixteen hours daily, it means more work than if these points are to be covered for only eight hours. An hourly coverage of patrol beats obviously means far more police work than a coverage once in four or eight hours. By the use of radio-equipped automobiles patrolmen can cover more territory, cover it oftener, and at the same time preserve that mobility so essential to effective police service, thereby reducing the size and cost of the police reserve.

So with other services. A board of education may set a standard of ten pupils per teacher, or thirty, or sixty. It may set a standard which includes supervising teachers, or visiting teachers, or various additions to the curriculum, such as art, music, shop-work or domestic science. Or the standard can be lowered by excluding any or all of these extras. The essential thing, in such a determination of public service costs, is that administrators and taxpayers should learn to think in terms of appropriate standards—they should learn to estimate the quality of the several public services in terms of the standards being followed, instead of simply in

terms of the dollars spent, for dollar aggregates tell little or nothing of what is being done. Public discussion should be directed to the question of the kind of standard the people want for any service, and the kind of standard they wish to pay for. It should be possible to say to the people of any community, "you can have such a standard for this service at such a price, or you can have this other standard of service for this other price." And it should be possible to say to them, further, "If this is all that you want to spend, or all you feel you can afford to spend, here is the kind of service you can get for that amount of expenditure."

The taxpayers' revolt has little significance as long as it deals only with total dollars spent, or with vague charges of extravagance. The officials' defense has as little significance as long as it is limited to showing that this year's budget estimates were based on last year's experience, since, without the use of standards, there can be no adequate explanation of what was spent last year. Taxpayers and officials can really get together in constructive discussion of governmental costs, only when they begin thinking and talking in terms of service and cost standards.

Important as is the use of standards, it is by no means the whole of the program. The use of standards is emphasized at this point in order to illustrate more clearly the conception of the application of intelligence in expenditure determination. It could fairly enough be called the "scientific" method of controlling, that is, of determining public expenditures.

The realization of this goal of scientific expenditure determination involves various important changes in governmental organization, structure and procedure. The present discussion will deal chiefly with the field of local government, although much that is here suggested would be applicable in the wider field of state or federal practice. In every case, the objective is that of establishing the optimum conditions of performance. Public administration may be regarded as a series of management operations performed in certain territorial or jurisdictional settings, by organization units constituted for administrative purposes in various ways. In part, therefore the problem of improvement deals with the jurisdictional setting, and in part it deals with the organization structure. It also involves the use of certain technical aids and devices.[3]

With respect to the jurisdiction setting for governmental operation, it is clear that the existing scheme of local government

[3] *Ibid.*

must be largely recast. As a guide to this reconstruction the following principles are offered:

(1) *The jurisdictional administrative organization must be appropriate to the governmental functions to be performed.*

This means that there must be a reallocation of the administrative responsibility for performing the several governmental functions to units or agencies operating over a territory sufficiently large to permit realization of the conditions of optimum performance. The search for such districts will be long and difficult, and some errors will no doubt be made. But it is now fairly well established that maladjustments of functional allocation are responsible for unnecessary public expenditures of substantial amount. The existing alignment of service responsibilities between the state and its local units is largely a product of historical accident. Thousands of small, weak local units exist, each striving to carry the load of the services traditionally assigned to local government, and in many instances large wastes can be demonstrated. There are instances of complete transfer of certain responsibilities from local units to the state, as has happened with roads and schools in North Carolina, but this transfer was made without due consideration of the possibilities of some intermediate type of jurisdiction, which might prove superior to the state from the standpoint of effective administration.

Little hope can be entertained for the erection of administrative districts of optimum size through local consolidations, although this possibility exists. The resistance to consolidation is ordinarily so strong, however, that it seems better to permit the continuance of the small towns, townships and boroughs which insist upon their local identity, and transfer from them to larger, more adequate units those functions which obviously require larger areas for the most economical performance. In some states the existing counties might serve, to some extent, although it is likely that under certain circumstances a grouping of counties into regional districts may also be required.

Objection may be made that the optimum size of district will vary with each service, and that the result of this proposal would be the establishment of a different series of districts for each of the several services. No such extreme is contemplated, of course, and it may be necessary to make certain adjustments in order to avoid this result, since the object is naturally the reduction, rather than the multiplication of the number and variety of separate spending agencies.

(2) *The revenue resources of any governmental unit should*

be commensurate with the burden of services to be performed by it.

The first principle mentioned dealt with the conditions of most efficient administrative performance. The second, just stated, relates to the equalization of financial burdens. The existing scheme of local government violates both of these principles. Small local units, depending mainly on the property tax, are obliged to finance schools, roads in large measure, protection, and often other services in substantial degree such as health, welfare and others. State governments have sometimes seized upon highly productive revenue resources without recognizing the necessity of devoting a part of the proceeds to the equalization of tax burdens over the entire state. Or, when this need has been recognized, numerous schemes of grants and subsidies to local units have developed in the effort to promote such equalization, although few of them can be said to have operated with entire satisfaction.

It is obviously wasteful to grant subsidies to local units which are not capable of the most efficient performance. No system of state aid can eliminate the loss due to the failure to transfer administrative responsibilities to areas better adapted in size to perform them. On the contrary, state grants under such conditions tend to perpetuate the vested interest of the small, weak district in its independent existence and in its retention of services for which it is no longer best adapted.

Once the administrative redistribution has been worked out, however, there is no reason why the state should not supply part of the funds for administrative performance by these new and more efficient districts. The state is a superior agent for the administration of various types of tax, and it is entirely legitimate to recognize state superiority in this field, while also recognizing the advantage of some intermediate district for actual functional performance. In the case of roads, for example, both construction and maintenance of the roads not included within the state system could be handled by intermediate districts, each embracing a sufficient mileage to warrant the services of engineering supervision and the necessary capital investment in equipment, while the state should collect motor vehicle licenses and gasoline tax and distribute to the new road districts such part of the yield of these taxes as may be allocated for the support of local roads.

Under any scheme of local aids, whether distributed to the existing units or to such new units as may be set up following a decision to secure the benefits of more efficient performance,

the state should maintain such supervision as may be necessary to assure application of the funds granted for definite purposes to those purposes, and the attainment of reasonable standards of efficiency in their disposition.

It is at this point that the significance of tax reform as such becomes apparent. Such reform, undertaken without at the same time bringing about the shifts in administrative areas and functional reallocations that are here suggested, may mean lighter taxation for some and heavier taxation for others, but the net result will be greater social waste through the perpetuation of inefficient units and methods. But when tax reform is undertaken concomitantly with the move toward the optimum conditions of administrative performance, the greater sacrifice imposed on some taxpayers through the readjustment of tax burdens in order to relieve other taxpayers will not be made in vain. Those groups which might reasonably be taxed more heavily have a certain justification in their resistance as long as it is perfectly evident that their contribution will go into the rathole of inefficient organization and procedure. Much has been said about plugging the holes in income and other taxes, but there is a strange and significant silence on the subject of plugging the holes in governmental organization and procedure.

(3) *So far as possible, there should be but a single local administrative authority over any given area and over the population within that area.*

This strict standard need not be insisted upon in all cases, but it must be evident that the maintenance of a series of overlapping and duplicating governmental agencies over a given area can only result in an unnecessary increase of aggregate governmental costs. This condition leads also to a lowering of the quality of governmental service through the diffusion of responsibility for the planning and execution of all large and important projects.

Important illustrations of this aspect of the subject are the relation of the county to the large city within it, the relation of metropolitan districts to the cities within the district, and the position of the rural township under any scheme of functional reallocation.

The purpose of this principle is that of obtaining greater simplicity in the distribution of administrative and financial responsibilities. Metropolitan and regional districts are required for the proper administration of certain services, and when such districts are established it does not follow that the cities within them should be dissolved in order to avoid all duplication of local

agencies. There should be, however, a reasonably sharp cleavage between their respective functions, and any service which is taken over by the district should not also be performed by the smaller units within it.

The simplification of the governmental structure, in its territorial or jurisdictional sense, in the ways here suggested, is not the only line of improvement that must be followed. Within each governmental unit, whether it be large or small in area, in population or in the scope of its functions, there are certain essentials of organization which should be observed if the conditions for adequate expenditure control are to be present. These are:

(1) *The personal responsibility of administrative and financial officers should be direct and inescapable.*

The surest way of realizing this objective is by the elimination of the multiple executive head, whether as board, commission, council or however it may be designated, and the substitution therefore of a single executive type of administration. The diffusion of responsibility that is always possible when decisions are made by vote of a group acting as a commission or board is a serious hindrance to the exact location of responsibility, whether for the purpose of giving praise or censure. The force of this principle becomes clearer if it is considered with the one to follow.

(2) *The policy-determining authority and the administrative authority should be vested in different groups or persons.*

On the theory that the policies of government, in a democratic state, spring ultimately from the desires or mandates of the people, the policy-determining authority becomes the representative of the people, reflecting the current expression of the popular will. In the state and national governments, this authority is vested in the legislative branch, while in the local government it is vested in the council, commission or board of chosen freeholders. Legislative assemblies are not always responsive to the popular will, and in periods of crisis, when there is no clear formulation of the popular will, they sometimes abdicate in favor of the executive and subside to the menial position of a rubber stamp, so far as policy determination is concerned.

The most important reason for separating the policy-determining function and the administrative function lies in the fundamentally different types of capacity which are required in the two fields. In the one, the qualifications required are those of the politician, using the term in its best and broadest sense; in the other, the qualifications required are those of the expert, the trained technician. The policy-determining group studies con-

stantly the course of public opinion, and seeks either to influence it or to ride with it. The administrative group deals primarily with the specific assignments, often highly technical in character, which represent the current expression of the public demand for governmental services. Theirs is the task of applying the specific resources of government in such manner as to secure the maximum flow of services at least cost. To illustrate: the Republicans and the Democrats, or the Conservatives and the Liberals in a given community may differ as to whether that community should build a new bridge. This is a matter of policy, to be discussed and eventually decided, perhaps, at the polls, or at a meeting of the policy-determining group after hearings. Once the bridge is decided upon, however, there is no such thing as a Republican or Democratic bridge. The issue is removed from the field of policy to that of engineering and finance. Evidently, the two fields have little in common, and it is rare indeed that one person combines in high degree the qualities demanded for excellence in both.

Further, whenever a policy-determining group is permitted to undertake directly the execution of its own policies, the principle of direct personal responsibility is open to flagrant violation. Abundant evidence of this may be found in the government of counties, and of those cities under commissions or councils which have direct administrative responsibilities.

(3) *Adequate agencies and instrumentalities of expenditure control must be provided.*

Space and time limits prevent more than a bare mention of some of the more important measures which should be recognized under this heading. Among these are: (a) a budget system, preferably of the executive type, with provision for executive control over the preparation and execution of the financial program; (b) centralized purchasing for all governmental units large enough to warrant the application of such a policy; (c) a uniform system of accounting and auditing; (d) uniform and reasonably strict debt control for all units inferior to the state (One of the reasons, it may be observed, for the excesses of local borrowing that have worked such havoc with local finances during recent years, is to be found in the improper allocation of functional responsibilities, whereby small, weak local units have been compelled to carry burdens for services far too heavy for their available current resources); (e) a comprehensive program of state supervision of all aspects of local finance; and (f) a procedure whereby individuals or groups of citizens may openly present their views on any question of financial policy, in order to provide more complete

and accurate information, greater publicity for the facts, and a more adequate expression of the popular will. This procedure may include the privilege of appealing to the appropriate state agency for a review of local proposals, in order to safeguard the interests of minorities.

(4) *Standards of service and of cost should be developed and applied in the measurement of governmental services and their cost.*

In view of the elaboration already given to this aspect of the program, further discussion of it is dispensed with at this point, except to recognize the pioneer work that is going forward under a few research organizations, and to suggest that with reasonable modification the accounting systems now in general use could be made to yield data of great utility in the determination of unit costs, and thus in the establishment of reasonable cost standards.

The determination of standards of service is a matter which involves the active and intelligent cooperation of all of the agencies public and private, that are concerned with the operations of government. Through this cooperation it should be possible to develop quantitative and qualitative standards of service. There can be little profitable discussion of criticism of governmental costs unless some sort of relation can be established between these costs and the character of the service they are supposed to provide.

(5) *Proper training should be provided for the permanent personnel in the public service.*

Circumstances must determine whether it is more satisfactory and less costly in the long run to provide this training through the supervisory activities of a state department of local finance or through special training schools for the various large groups of public employees. So large a proportion of all public expenditures represents payment of wages and salaries that every effort should be made to assure a sound procedure for the selection, promotion, discipline and retirement of public employees.

(6) *Comprehensive financial planning should precede all concrete expenditure proposals.*

The best examples of budgetary procedure provide an instance of such planning, but this procedure is ordinarily restricted to a single fiscal year, and also to the current operations of the governmental unit during such fiscal year. Much less frequent are the instances of careful, long-range planning for capital expenditures and the long-range task of financing such expenditures.

Adequate financial planning involves more than the time ele-

ment however. It requires that the expenditure policy be based upon a carefully considered scale of community values and resources. First things must be put first, and the surest way of avoiding extravagant expenditure for a single project is to have in the picture the community needs for other important projects, and at the same time the community's ability to pay for all of these things.

Since this group is especially concerned with the problem of agricultural taxation and tax relief, it may be permitted, in closing, to refer expressly to the issue of agricultural tax relief.

The two governmental services which bear most heavily upon rural taxpayers are roads and schools. It would appear that a simple and effective solution of the farmers' tax difficulty would be the transfer of the financial burden of roads and schools to larger areas, or to the state itself.

The reallocation measures discussed above would no doubt include certain readjustments of this sort, but it would be as great a mistake to assume that this is all that would be required, as it has been to suppose that the farmers' general economic difficulty could be permanently and satisfactorily solved by measures directed at agriculture alone. A transfer of a substantial part of the cost of local roads and schools to a larger district or to the state necessitates correspondingly greater financial resources for the new administrative units, or from state-administered taxes, if local road and school tax levies are to be lightened. But as long as wastes are occurring anywhere, the provision of funds for easing rural tax burdens is more difficult, and the proportion of such funds that can be diverted from the ratholes of waste will be lessened. Upstate New York has a greater stake in the administrative and financial reform of New York City than is generally realized, and the farmers of Illinois, Minnesota and other agricultural states have been singularly slow to perceive the significance, to them, of the perpetuation of governmental wastes, not only in the rural sections, but also in the urban centers. A state may, indeed, undertake the "bootstrap levitation" tactics followed in North Carolina, but it cannot provide for its citizens the full measure of tax relief that is possible, and to which they are entitled, without a broad attack on all of the sources of governmental waste. It is my hope that I have provided an outline of the strategy of this attack.

and accurate information, greater publicity for the facts, and a more adequate expression of the popular will. This procedure may include the privilege of appealing to the appropriate state agency for a review of local proposals, in order to safeguard the interests of minorities.

(4) *Standards of service and of cost should be developed and applied in the measurement of governmental services and their cost.*

In view of the elaboration already given to this aspect of the program, further discussion of it is dispensed with at this point, except to recognize the pioneer work that is going forward under a few research organizations, and to suggest that with reasonable modification the accounting systems now in general use could be made to yield data of great utility in the determination of unit costs, and thus in the establishment of reasonable cost standards.

The determination of standards of service is a matter which involves the active and intelligent cooperation of all of the agencies public and private, that are concerned with the operations of government. Through this cooperation it should be possible to develop quantitative and qualitative standards of service. There can be little profitable discussion of criticism of governmental costs unless some sort of relation can be established between these costs and the character of the service they are supposed to provide.

(5) *Proper training should be provided for the permanent personnel in the public service.*

Circumstances must determine whether it is more satisfactory and less costly in the long run to provide this training through the supervisory activities of a state department of local finance or through special training schools for the various large groups of public employees. So large a proportion of all public expenditures represents payment of wages and salaries that every effort should be made to assure a sound procedure for the selection, promotion, discipline and retirement of public employees.

(6) *Comprehensive financial planning should precede all concrete expenditure proposals.*

The best examples of budgetary procedure provide an instance of such planning, but this procedure is ordinarily restricted to a single fiscal year, and also to the current operations of the governmental unit during such fiscal year. Much less frequent are the instances of careful, long-range planning for capital expenditures and the long-range task of financing such expenditures.

Adequate financial planning involves more than the time ele-

ment however. It requires that the expenditure policy be based upon a carefully considered scale of community values and resources. First things must be put first, and the surest way of avoiding extravagant expenditure for a single project is to have in the picture the community needs for other important projects, and at the same time the community's ability to pay for all of these things.

Since this group is especially concerned with the problem of agricultural taxation and tax relief, it may be permitted, in closing, to refer expressly to the issue of agricultural tax relief.

The two governmental services which bear most heavily upon rural taxpayers are roads and schools. It would appear that a simple and effective solution of the farmers' tax difficulty would be the transfer of the financial burden of roads and schools to larger areas, or to the state itself.

The reallocation measures discussed above would no doubt include certain readjustments of this sort, but it would be as great a mistake to assume that this is all that would be required, as it has been to suppose that the farmers' general economic difficulty could be permanently and satisfactorily solved by measures directed at agriculture alone. A transfer of a substantial part of the cost of local roads and schools to a larger district or to the state necessitates correspondingly greater financial resources for the new administrative units, or from state-administered taxes, if local road and school tax levies are to be lightened. But as long as wastes are occurring anywhere, the provision of funds for easing rural tax burdens is more difficult, and the proportion of such funds that can be diverted from the ratholes of waste will be lessened. Upstate New York has a greater stake in the administrative and financial reform of New York City than is generally realized, and the farmers of Illinois, Minnesota and other agricultural states have been singularly slow to perceive the significance, to them, of the perpetuation of governmental wastes, not only in the rural sections, but also in the urban centers. A state may, indeed, undertake the "bootstrap levitation" tactics followed in North Carolina, but it cannot provide for its citizens the full measure of tax relief that is possible, and to which they are entitled, without a broad attack on all of the sources of governmental waste. It is my hope that I have provided an outline of the strategy of this attack.

STUDIES OF LOCAL GOVERNMENT AS AN APPROACH TO THE QUESTION OF FARM TAXATION[1]

M. P. CATHERWOOD
CORNELL UNIVERSITY

The study of public finance is frequently divided into the three fields of public revenues, public expenditures, and public financial administration.[2] It is impossible adequately to consider any one of these three fields without an understanding of the others. For example, it is not sufficient to appraise or develop a system for obtaining public revenues without consideration of the administrative system and of the amount and purpose of the proposed expenditures.

Most studies of farm taxation with which the writer is familiar have been made primarily from the standpoint of revenues. This does not necessarily mean that in all such studies the fields of expenditures and administration have been entirely neglected, but that in most cases the primary emphasis has been upon revenues.

The fact that the property tax forms the major source of income for local units of government, together with the demand for information concerning property taxes, has undoubtedly contributed to the emphasis that has been placed upon revenues in studies of the question of farm taxation. In addition, information on revenues is ordinarily more easily obtained than that concerning expenditures or administration. For most local governmental units there are relatively few sources of revenue, the most important of which is usually the property tax. Information concerning tax levies is more frequently available in published form than is complete and accurate data on expenditures or administration.

Because of widespread demands from groups and individuals throughout New York State for information on local government and taxation, the College of Agriculture at Cornell University during the past four years has undertaken research on rural local government. Requests have been received for similar work in predominantly urban counties, but up to the present time it has been impossible for the College to undertake such studies.

The problems of local government in New York have been approached from the standpoint of local units of government as business concerns supplying certain governmental services. The work has proceeded upon the premise that the most desirable system of local government is that which provides the desired

[1] This paper was read at the Twenty-fifth Annual Meeting of the American Farm Economic Association at Chicago, December 28, 1934.
[2] Lutz, Harley L., Public Finance, 1931, p. 1.

governmental services in the most efficient manner and also provides for an equitable distribution of the costs.

Local government is important to farmers in New York. This is not only because of the size of the tax bill but because highways, protection, health facilities, and other functions of government are of particular importance to rural people in a state in which the population is predominantly urban, in which production of perishable farm products is important, and in which there is a relatively large rural area.

The "public standard of living" in such a state is necessarily high. With small units of local government, a large proportion of the governmental services are used by persons outside of the unit performing the service. Accordingly, it is exceedingly important to the people in rural sections of New York that the desired governmental services be performed in an economical manner and that the costs be distributed equitably.

The area of New York State, outside of New York City, is divided into 57 counties. The 57 counties are subdivided into 59 cities and 932 towns (townships). The same area is also divided into approximately 9,000 school districts, without respect for county, city, town, or village lines. In addition, within the towns there are incorporated villages, and special taxing districts for fire protection, lighting, and other purposes.

The legislative body of the town is the town board, the chairman of which is the town supervisor. The legislative body of the county is the board of supervisors, which includes the supervisor from each town and supervisors from any cities, in accordance with the provisions of the city charters. Both counties and towns have numerous elective and a few appointive officers. In New York, school district administration is entirely separate from county and town government.

It is impossible to make a complete and accurate study of local government from an analysis of published reports. To attempt to do so gives rise to many of the difficulties encountered in making a farm management study based entirely on census figures. Published reports contain reliable information concerning certain items. However, experience has demonstrated the certainty of serious misinterpretation of published material concerning the finances of local government unless one is thoroughly familiar with the accounting procedure and classifications upon which the reports are based. In addition, many published reports on local finances, ordinarily accepted as authoritative, will be found to contain serious discrepancies when compared with the actual rec-

ords. Because the College of Agriculture has made detailed studies of the financial records of local units in New York, more effective use and a more nearly correct interpretation of published reports can now be made.

These studies made by the College of Agriculture have had certain characteristics that are not always associated with studies of farm taxation and local government.

First, the emphasis has been placed on a study and accounting analysis of expenditures and local governmental administration. This has resulted in an analysis based upon the local units of government not only as taxing units, but also as administrative units.

Second, the work has been based on the detailed field studies necessary in order to obtain a complete and accurate picture of the finances and administration of local government in New York.

Third, the attack has been on the problems facing local units of government—not upon local government as an institution, and not upon local officials.

The studies were undertaken with the approval of local boards of supervisors and of other county and town officials. Demands for the work in excess of available facilities have resulted in limiting new work to that requested by local officials. It appears that cooperation with local officials is one of the most effective ways of making progress in the solution of local governmental problems. It is possible to obtain this cooperation when the approach is that of solving governmental problems rather than that of condemning local government or local officials.

After obtaining the necessary cooperation, a detailed analysis was made of the original, unpublished financial records. This necessitated an examination of thousands of original bills and vouchers. These records were examined in order to provide a detailed and uniform classification of receipts and expenditures. No attempt was made to determine the legality of the disbursements. Most receipts and expenditures were placed upon an accrued basis. Such work was carried on in eight rural counties, including 106 towns therein. Other studies of selected problems have been made in twelve additional counties.

The research in local government has been followed by the preparation of reports concerning local finances. These reports have been returned to and discussed with local officials and taxpayers in the counties studied, as well as in other counties. This extension work, which has been done during the course of the research, has been of great value in the development of the work.

An outline of the significant features of such a report prepared for Wyoming County, New York, follows. Of the property taxes for county, town, school, and state purposes in Wyoming County in 1932, 36 per cent was for county, 28 per cent for town, and 35 per cent for school district purposes. One per cent was for the state armory and court and stenographer's tax, the only remnant of a direct state tax on property in New York. For the average of rural areas in New York, approximately one-third of the property taxes is for each of the three units, the county, the town, and the school district.[3]

The actual county receipts from the property tax were less than the tax levy because of an increase in tax delinquency. The net county receipts from the property tax levy totaled $288,866. In addition, the county received the amount of certain county-administered expenses charged to towns not as part of the county tax levy, but upon some basis other than taxable wealth. In most counties, welfare expenses form a large part of these "chargebacks." For such sums the county is the administrative unit, but the town is the taxing unit. Frequently the taxes raised for "chargebacks" are not included in published reports summarizing local taxes.

The County received $148, 969 from the state in the form of various revenues for highway purposes. These included the county's share of the gasoline tax, motor vehicle fees, and certain other funds. The county also received other revenues from the state for welfare and health purposes totaling $24,878. The county had other income of $21,461, the largest item of which was county clerk's fees.

County expenditures in Wyoming County for 1932 were $468,616 (Table 1). Of this total, 41.8 per cent was for highways. Welfare expenses, which have increased rapidly during recent years, were 20.6 per cent of the total. Debt service (interest and bond payments) was 15.0 per cent. The important expenditures for the protection of persons and property were those for courts, sheriff, jail, and district attorney. Health expenditures included those for county laboratory, health nurse, and bovine tuberculosis eradication. Most of the other expenditures are self-explanatory. Because of the town system of tax collection in New York, the county expenditures for this purpose are relatively small.

In the mimeographed reports prepared for the individual counties, there are tables showing items under each of the major ex-

[3] Haag, H. M., Governmental Costs and Taxes in Some Rural New York Towns, Cornell University Agricultural Experiment Station Bulletin 598.

pense classifications. For example, welfare expenditures in Wyoming County in 1932 included a number of different types of relief.

The tables showing detailed classifications of expenditures are usually followed by information concerning such items as future debt payments and the trend in tax delinquency. For example, the debt service payments for Wyoming County bonds outstanding January 1, 1933, increase to a peak of $83,420 in 1935 and should be completed in 1947. This bonded indebtedness was incurred at the time when it was necessary for the county to pay 35 per cent of the cost of construction of state highways.

TABLE 1.—COUNTY EXPENSES, WYOMING COUNTY, NEW YORK, 1932

Expense	Amount	Per cent of total
Highways	$195,870.88	41.8
Welfare	96,721.27	20.6
Debt service	70,182.77	15.0
Protection (courts, sheriff, jail, etc.)	40,287.58	8.6
Health (laboratory, nurse, veterinary)	13,812.54	3.0
County clerk	13,216.52	2.8
Elections	6,507.79	1.4
Supervisors' compensation and expense	6,272.57	1.3
County treasurer	5,373.26	1.2
Clerk of board and county attorney	4,049.76	0.9
County buildings	3,496.78	0.7
Farm Bureau appropriation	3,500.00	0.7
Home Bureau appropriation	2,750.00	0.6
Junior Extension appropriation	2,500.00	0.5
Publishing proceedings and audits	1,513.00	0.3
Retirement system	1,312.80	0.3
Taxation and assessment	1,045.06	0.2
Miscellaneous	203.46	0.1
Total	$468,616.04	100.0

The collection of delinquent taxes in New York is a county function. In 1920, the collectors of the sixteen towns in Wyoming County returned to the county treasurer $5,312 of uncollected taxes. Returned taxes increased until in 1932 and 1933 they totaled more than $80,000. The decline in returned taxes in 1934 is significant and is consistent with similar figures in other counties. A considerable part of such returned taxes is collected by the county treasurer before the property is sold at tax sale.

A financial analysis of the towns in Wyoming County was also prepared. In 1932 town receipts averaged $19,768 per town for the sixteen towns. The property tax was the most important source of income, averaging $13,925, or 70.4 per cent of the total. State aid for town highways averaged $2,428 per town, or 12.3 per cent of the total. Towns which acted in accordance with the regulations of the New York State Temporary Emergency Relief Administration received a 40 per cent refund for money spent for work relief and home relief. Part of the state income tax is

returned to the towns, cities, and villages. One-third of the state-collected franchise tax on business corporations is returned to cities, towns, and villages. One-half of the mortgage tax collected when mortgages are recorded is returned to the towns and villages.

In addition to the income from such sources, some of the towns received income from highway machinery rentals. Inasmuch as the renting of town machinery was incidental to the usual town functions, such rentals were omitted from receipts and were deducted from highway expenditures.

The total expenditures of the sixteen towns in Wyoming County averaged $19,241 in 1932 (Table 2). Highway expenditures were $10,794, or 56.1 per cent of the total. Debt service expenditures included payments of interest and principal, and averaged $2,766, or 14.4 per cent. Most of the debt service originated for highway purposes and might be thought of as an addition to the highway expenditures. Welfare expenditures averaged $2,567 per town, or 13.3 per cent of the total. The three classifications of highways, debt service, and welfare accounted for 84 per cent of town expenditures.

Expenses for general administration included compensation and expenses of the town board, supervisor, town clerk, registration of vital statistics, and other smaller items of expense. The town clerk and supervisor receive additional compensation for highway and election services. Election expenditures were made up chiefly of the compensation of election officials. Special services included appropriations for libraries, the American Legion, cemeteries, and similar organizations. Assessment expenditures were almost entirely for compensation of the three town assessors in each town.

The salary of the health officer was the largest item in health expense. Protection expenses included fees of justices and constables. The premium on the tax collector's bond was the largest item under tax collection. The tax collector's fees are not included, since these are added to the tax bill and are not part of town expenditures.

In the reports concerning town finances, additional tables are included to provide more information concerning the expenses. In addition, variations between towns are shown. Attention is called to the factors responsible for variations in tax rates. In the sixteen towns in Wyoming County in 1932, town-administered welfare expenditures varied from thirteen cents per capita in one town to $3.04 per capita in another. The tax rate necessary to pay

for town-administered welfare varied from fourteen cents per thousand to $2.50 per thousand dollars valuation. It must be recognized that, entirely aside from the question of economy or efficiency, the use of a county unit for welfare administration and taxation in this county would eliminate this variation in welfare tax rates. The taxes would thus be increased for some towns and decreased for others.

TABLE 2.—TOWN EXPENDITURES, 16 TOWNS, WYOMING COUNTY, NEW YORK, 1932

Expenditure	Average per town	Per cent of total
Highways	$10,794	56.1
Debt service	2,766	14.4
Welfare	2,567	13.3
General administration	648	3.4
Elections	474	2.5
Special services	473	2.5
Assessment	411	2.1
Town buildings and equipment	294	1.5
Refunded bank tax	274	1.4
Health	239	1.2
Protection	203	1.1
Tax collection[a]	57	0.3
School expense	37	0.2
Other	4	—
Total	$19,241	100.0

[a] Does not include collector's percentage.

Wide variations exist in town tax rates. One of the most important factors affecting town tax rates is the full value of the taxable property of the towns. In 1932, four towns in Wyoming County with less than $29,000 of taxable wealth per square mile had an average town tax rate of $11.26 per thousand (Table 3). Four towns with more than $100,000 of taxable wealth per square mile had an average town tax rate of $4.50 per thousand. Despite the increase in taxes per square mile, the rate required to raise the necessary taxes declined as wealth increased.

Following the preparation and presentation of these reports on county and town finances for Wyoming County, the supervisors asked for suggestions concerning the conduct of the county business. It was recognized that no single official in the county had adequate and complete information concerning the county finances. Various officials drew orders which circulated as checks, but which were not recorded on the books of the county treasurer until after settlement with the bank at periodic intervals. There were no records available concerning the amount of outstanding orders for which the county was responsible. Suggestions for the improvement of the accounting system were made. The board requested that appropriate changes be introduced. A new accounting system was installed and the books were placed on a cash basis.

Next, the board of supervisors requested assistance in the preparation of periodic financial reports based upon the new accounting system. Such reports have been prepared and have led to additional steps being taken to improve a number of financial practices.

As the next step, in this same county, the board asked for assistance in the preparation of the annual budget and for help in putting it into use. On the basis of the records of past years, together with an examination of the present and probable future

TABLE 3.—RELATION OF WEALTH TO TOWN TAX RATES, 16 TOWNS, WYOMING COUNTY, NEW YORK, 1932

Town	Taxable property per square mile	Town taxes per square mile	Town tax rate on full value
Orangeville	$19,300	$213	$11.05
Wethersfield	21,100	244	11.60
Bennington	24,500	279	11.35
Pike	28,500	313	10.98
Java	29,700	239	8.49
Sheldon	31,700	276	8.69
Eagle	40,000	339	8.49
Covington	42,800	421	9.85
Genesee Falls	57,100	493	8.64
Middlebury	58,300	451	7.74
Arcade	65,400	336	5.13
Castile	85,600	513	5.99
Gainesville	101,900	526	5.16
Attica	126,600	570	4.50
Warsaw	171,200	663	3.87
Perry	177,600	839	4.72
All towns	$67,600	$405	$6.16

financial needs of the county, a complete budget was prepared in much greater detail than heretofore. Appropriate measures were taken to make the budget effective.

In this same county, attention was called to the difficulty of obtaining complete and accurate assessment of property without the use of maps showing individual properties. Such maps have not been available for rural towns in New York, but are necessary for various governmental and private purposes. The board of supervisors requested that the College supervise the preparation of such maps as a work relief project. This work was undertaken without full realization of the difficulties involved. The field work for such a map, showing the location, area, ownership, and extent of all properties outside of incorporated villages, has been completed for half the county. In the preparation of the maps, all town, school district, and village boundaries are shown.

It appears that such maps will be extremely valuable for a number of different purposes. In addition to facilitating complete assessment of property, they will make possible the maintenance of adequate records concerning the payment or non-payment of taxes. Although not yet completed, the maps are already being

used for various purposes by local officials and by private individuals.

In one town the assessors asked for assistance in the installation of a new system of assessment. It did not appear desirable for the College to assess the property, as was requested. However, aid was provided in the installation of an improved system of assessment.

The first step in this direction was the preparation of an accurate property map. The map, at a scale of 200 feet per inch, shows all properties in the town, together with information on land in orchards, vineyards, crops, and woods. The State Tax Commission cooperated in having an engineer value the utility and commercial property, and also make an investigation to determine the relationship between assessed value in the past and the actual value of the property. In accordance with the ratio thus established, farm and residential property was assessed at full value, and the engineer's valuations were used for the utility and commercial property.

The use of the map by the assessors makes possible the complete assessment of property and greatly facilitates accurate assessment. The assessment for the town in 1934 under the new system totaled more than $3,000,000, compared with a total of less than $1,000,000 in 1933. Inequalities and discrepancies in the assessments of individual properties are much less likely to occur under the new system, with assessment at full value rather than at a small proportion of full value.

In working on these problems it has been interesting to observe the progressive attitude taken by local officials in attempting to solve many of the governmental problems with which they are faced. A sound program designed to meet specific problems is often unanimously approved by boards, the members of which may be unalterably opposed to any abstract proposals for reorganization, consolidation or centralization.

One of the difficulties encountered by boards of supervisors in attempting to improve the efficiency of their county government is the lack of any centralized administration of the county business. With the large number of elected and appointed officials, with decentralized responsibility for purchasing and for auditing, and with numerous mandatory expenditures it is difficult to obtain coordination of the county financial affairs. The need for more coordination and centralization of the administrative affairs of the county has been brought forcibly to the attention of a number

of boards of supervisors by the difficulties encountered in attempting to plan and coordinate the county finances.

In New York, the desire for local control is very keen. The important elements are freedom to decide what taxes shall be levied and freedom to direct the expenditure of the money. In the field of fiscal administration there are many opportunities for the improvement of rural government without loss of important local control.

With the numerous local units of government in New York, it is impossible for the College to assist all of them in the solution of their financial problems. However, it is believed that the work on the solution of these problems in a few local units in New York points the way and provides an example for other units, as well as indicating necessary changes for the state as a whole.

The work on the solution of individual problems has been from the standpoint of improvements that could be effected by the local units under the present constitutional and statutory provisions. This does not obscure the fact that for the efficient performance of the work of local government, certain statutory and constitutional changes are necessary. The study of individual problems is very effective in determining necessary changes and in educating local officials and taxpayers.

In considering the questions of government and taxation, attention should be called to the inadequate published reports concerning governmental finances. In many respects, the lack of intelligible public financial reports is even more serious than the lack of adequate accounting and auditing systems. The lack of such reports is not usually due to attempts to conceal the facts, but arises from inadequate accounting records and from the failure to give attention to this phase of public accounting. Frequently the entire emphasis is upon the auditing problems of local financial records rather than upon the development of understandable, descriptive, and comparative fiscal reports.

It appears unfortunate that most proposed changes for improvement in local government have been discussed almost entirely in terms of reduced taxes. Tax reduction, although important, is only one of the objectives of improvement in local government. Some of the most urgent needs in rural local government are for improved services and for a more equitable system of taxation, neither of which is necessarily associated with reduced taxes.

It also appears unfortunate that so much of the emphasis in

discussions concerning the improvement of local government has been upon consolidation and reorganization as such, rather than upon tangible proposals for the solution of governmental problems. Because of the keen desire for local control, there is a tremendous resistance to proposals for broad changes or for consolidation, even on the part of many persons interested in the improvement of local government. The desire for local control is usually accompanied by a recognition of the problems which must be faced. The proposal of broad plans for reorganization and consolidation, with only a vague reference to the methods by which individual problems are to be solved, may preclude a sound but slow improvement of local government through the study and attempted solution of individual problems which may be expected to focus attention upon and result in improved governmental organization.

Although certain improvements are dependent upon broad changes in the form or type of administration of local government, such changes alone will not automatically provide the solution without practicable provisions for meeting the individual problems. Difficulties in operating a unit of government as an efficient business concern will continue regardless of the form of organization. The form of organization, however, is important in determining the general administrative plan and consequently may be an important factor influencing efficiency.

Regardless of the method of approach in the attempted solution of the problems of local government and taxation, the most urgent need is for facts upon which to base intelligent conclusions. At present it is often difficult, if not impossible, for interested and intelligent citizens to obtain comprehensive information concerning governmental receipts and the purposes for which the money is spent. Under such circumstances, it is not surprising that progress in accomplishing the changes necessary for the improvement of the efficiency of government is slow. Progress in the solution of the problems of providing the necessary services in the most efficient manner and in paying for them with an equitable system of taxation depends in large measure upon the making available of facts as a basis for an intelligent course of action.

In considering the whole question of studies of local government as an approach to the question of farm taxation, it appears that the first point of emphasis should be the development of understandable, factual data, covering receipts, expenditures, and administration. Without such information, neither an understanding of local government nor a satisfactory solution of its

problems is possible. In general, it is unnecessary and frequently unwise to recommend or exhort. What is most needed is not a statement of the changes that local voters and taxpayers ought to want, but a presentation of the facts concerning local government so as to make sound conclusions possible. One of the characteristics of an educated people is their ability to take action in accordance with the facts.

DISCUSSION BY CONRAD H. HAMMAR
UNIVERSITY OF MISSOURI

To the three divisions into which research in public finance has been traditionally divided: that is revenues, expenditures, and administration, a fourth which is particularly relevant in relation to farm taxation, may be added. For want of a better term I shall call this fourth division a land use approach. It deals among other things with such matters as tax delinquency and presents the question, often pointed, whether a particular region can or cannot effectively support the forms and institutions of rural government as they now exist. This fourth type of approach directs attention, on the one hand, to the quality of the underlying natural resources of a region and the effectiveness with which they are being exploited, and on the other hand, to the composite of governmental attributes as combined in its fiscal and administrative machinery.

In our work in Missouri we have found all four approaches useful, though not equally useful in all situations. Thus the problem of revenues and particularly of the distribution of taxes is one of state-wide application, since only the legislature can inaugurate changes that will cause significant shifts in the group incidence of taxes. Parenthetically it should be noted that the legislature also controls the expenditures of state revenue and the granting of state aids for various purposes. The appeal, if much real accomplishment is to be achieved in this field, must therefore be made to a state-wide audience, though smaller objectives occasionally are to be attained by calling attention to faulty local administration of existing tax laws.

In the other types of approach the need for legislative and constitutional reform is also important but not as important. Thus, zoning of land use, so prominently mentioned in recent reports, requires a state enabling act but thereafter depends for its adoption upon local initiative and local information. This same situation obtains with reference to county consolidation or the realignment of functions in county government.

In Missouri, also, we find that upon the type of approach that is used will depend, in large part, the interest that may be aroused and sustained in programs relating to farm taxation. In the more wealthy farming sections of the state the interest concentrates almost exclusively on redistributing the tax burden. On the other hand, in the rugged Ozark highlands where farms are poor and tax delinquency excessive and where types of land utilization are undergoing great changes there is a feeling that a revision of the entire local governmental structure may be advisable. Consequently factual material that creates a considerable impression in the

Ozarks fails to arouse much discussion in Northern and Western Missouri.

In all parts of the state, however, there is a strong presumption that local affairs should be locally controlled and that locally elected men are the most satisfactory means of exerting that control. Beyond a fitful sputtering here and there, little evidence of a real desire to change the administration of local government can be said to exist. Partly, I am sure, this represents a situation indicating the immaturity of concern in these matters as contrasted to that existing in New York, but it suggests to me that progress in improving local governmental administration in the interest of more acceptable methods of farm taxation may often best be furthered by an oblique rather than a frontal attack.

Our approach therefore is not so much to carry our message to rich Atchison County that could spend $25.00 per capita for governmental services with a tax rate of approximately $1.00 per each $100.00 of assessed valuation in 1932, but to poor Shannon County which, with a tax rate of $1.75, could find in this same year only enough money for an expenditure of $12.00 per capita. In Atchison County, to be sure, there is great grumbling among farmers about taxes but very little about methods of expenditure, or of accounting, or even of the astonishingly poor job of assessing that characterizes the administration of government in the county. Indeed a recent proposal in this county to replace the multitudinous small school districts by a careful redistricting to put the schools upon a consolidated basis was angrily vetoed in a popular meeting.

In Shannon County the same prejudice in favor of existing local governmental forms runs high but is being subjected to powerful tempering forces. Agriculture is on the wane, population is declining, assessed valuations are dwindling, tax delinquency has demoralized revenues, and the maintenance of desirable standards of public services has become a major problem. Furthermore, the system of land utilization is rapidly undergoing a fundamental change. The National Forests have taken over about a fifth of the county and the people are clamoring to have the forest boundaries extended. Exploitative farming has so exhausted the fertility of the uplands that the traditional type of farming can no longer continue, but must be replaced by grazing or part-time farming supplemented by forestry, industry, or catering to vacationers.

In short, the threat to the old forms of securing a livelihood are so painful in Shannon County that institutions and traditions are falling and it appears that the ensuing period of rebirth will be a particularly propitious one in which to propose newer and better forms of government. To this end there is being prosecuted in the College of Agriculture a study with these major aspects: (1) an analysis of internal (that is within the county) aspects of taxation and expenditure, (2) an inter-county comparison emphasizing particularly differences in tax rates and expenditures per capita and for various governmental purposes, and (3) the investigation of the effects on expenditures and taxes of the consolidation of counties on the one hand, and of the realignment of functions on the other. All of these, however, are made subordinate to the larger program of economic reform or rehabilitation comprehended under the term land planning.

In such an agenda the analysis of local governmental expenditures is only a part, albeit an important part of the whole, and we expect to obtain from such analysis essentially three types of information. The first of

these is a knowledge of accounting and administrative methods and procedure given so preponderant emphasis in Professor Catherwood's paper. Second is the type of information obtained by Allin and Wehrwein in their Wisconsin study on the savings to be realized by the proposed consolidation of counties, though we shall be inclined to give as great attention to the economies to be derived from a consolidation or realignment of functions. Finally, such investigations will provide data on the differences in per capita expenditures as between counties and regions, and will thus afford an index on the one hand of state as contrasted to local responsibility in the maintenance of standards in education and highway building, and on the other hand, an equally good index of the capacity of the county or region to support the functions of government.

There is in all this program a recognized and large element of pragmatism which we find at present unavoidable. An attack on the problem that was uniform for the whole state and that was based upon some dependable presumption regarding the direction in which governmental reform should go would be preferable. There is no security that a successful solution of the problem in Shannon County and the Ozarks will provide an acceptable guide to what should be done in Atchison County and the wealthier sections of the state. That some confusion may arise is undeniable. In the earlier stages of the program, however, it is better to be in the position of one who presents facts but does not advocate rather than that of one who advocates without facts.

Discussion by G. S. Klemmedson

Colorado Agricultural College

Every American farmer knows that paying taxes today represents double the investment it did several years ago. Not only because farm taxes have gone up, but farm incomes have gone down. The cash farm income which was 10 billions in 1924-1928 is about 6 billions in 1934.

This means that everybody is striving to make every outgoing tax dollar bring back an equal value in quality of necessary governmental service. Strangely enough, there is an important side to this matter which is seldom discussed, namely, what do we get for the taxes we pay? Another neglected question concerns the reason for the increase that has taken place. "Why" as well as "how much," also merits our consideration. Does it make any difference what kinds of taxes are used to raise the money that your local government spends for schools, roads, and other services?

Do we get something for our tax money, especially the dollar spent by the local units of government? There is considerable talk that implies that we get nothing in return for what we pay taxes. "Every ten workers carry a government employee on their backs." "The tax spenders rob the taxpayers." Are these statements fair?

It is clear to most of us that taxes are not entirely payments for "dead horses." Perhaps in the case of some of these items, we do not get our money's worth. Further, there may be—are, in fact—leaks and wastes in expenditures. But there can be no question that a great deal of service is rendered in return for the money which you and I contribute to our government.

The problem of wringing the waste out of local government expendi-

tures is important because of its effect upon farm taxation and the solution of this problem presents many difficulties as Catherwood has pointed out in his paper. Catherwood suggests that detailed studies of local government receipts and expenditures are necessary before one can arrive at a proper solution of the problem of lowering the cost of local government. He does not feel however, that the movement to consolidate counties, reorganize local government, or the centralization of control will have much direct benefit in lowering expenses. Perhaps he is right.

The suggestions of Catherwood are good as far as they go but have certain drawbacks because they do not go far enough. Something more than the adoption of better business practice, accounting, assessment procedure, and budgeting is needed in order to improve the quality of local government and reduce the cost. In fact these cannot be obtained without some reorganization. I frankly admit that the reorganization of local government will meet with a great deal of opposition and can be accomplished only by a process of education which may take a long time. In the meantime every effort should be made to adopt better business practice under the present set-up.

There are several steps which the people should take:

First, the costs of government should be fairly distributed. Make sure that the public revenue is secured in accordance with accepted principles of fair taxation. In many states there are sources of revenue which altogether escape paying their proper share to the support of state and local government. Before you conclude that the cost for certain functions is too high, make sure that everyone is carrying his fair share of the cost of public services from which all profit.

Second, eliminate non-essential public activities. In some counties and cities revenues for essential services have been reduced while funds for non-essential purposes have been left untouched. This may mean a reorganization in order to eliminate certain functions or departments.

Third, before the local government budget is cut calm consideration must be given to the results of such reductions. Economy in governmental expenditures must be constructive or it will mean simply a transfer of the cost from the public purse to the private pocketbook. This may mean increased expenditures for certain worthwhile services.

Fourth, we must plan for future progress by making a careful study of the need for community facilities and governmental services beneficial to agriculture, business, and the community. Some localities do not need as much in the way of educational, recreational, and governmental services as other communities and they are unable to pay for such service even if it is performed efficiently. This may mean the entire elimination of certain local governmental functions in thinly populated areas. Zoning may be an effective means of bringing about such results.

Fifth, more attention should be given to a thorough revamping of antiquated local governmental structure. In some cases the re-allocation of many governmental functions should receive particular attention. Many local governmental units should be abolished and many others consolidated. In addition, several functions now being badly performed by small units should be administered by larger governmental units. Such reorganization naturally bears a vital relation to the problem of farm taxation, the raising of revenues, and allocating governmental revenues. The virtual

bankruptcy of many local units may force more rapid and drastic changes than many of us believe possible.

There Are Ten Times Too Many Units of Government

There are 182,660 political units in the United States struggling to keep their heads above water according to recent census figures. There are, in addition to the federal and state governments, 3,062 counties, 16,659 cities, towns, and villages, and boroughs, 19,769 townships, 128,548 school districts, and 14,752 other civil divisions, each with a payroll and power to tax—an intolerably wasteful set-up.

In Colorado there are 2,323 units of local government, consisting of 63 counties, 2,033 school districts and 227 incorporated municipalities, and excluding irrigation, drainage, conservation and other districts. The state has a million people and a valuation of one billion dollars, and of those amounts, one-fourth of the population and one-third of the valuation are concentrated in fifty-eight square miles, the city and county of Denver. Three of these 2,323 units—the city and county of Denver and its school district—handle all of this great proportion of our wealth and population. The remaining 2,320 local units furnish government for 768,000 people. In other words, outside of Denver, there is a unit of local government levying taxes every year for every 328 people, or there is a local unit of government for every 82 families in the state outside of Denver. I believe the day is coming when many of these unnecessary units will be entirely eliminated.

Colorado Program for Study of Local Government

Our Colorado studies have been divided into three sections: (1) governmental organization and financial structure, (2) education and, (3) the highway system. Our surveys cover an analysis of the organization of the county government and schools, receipts and expenditures. Information for prior periods extending back, in many instances for ten years, have been introduced for comparative purposes and for the purpose of showing the trend in receipts and expenditures and in the ability of the people to support the county government or schools. In some cases bond requirements have been traced from the date of issue to the termination of all bond issues.

These studies have been made with the primary object of showing where all funds, disbursed by the county or schools, came from, how they were expended and what was secured for the expenditure. This in turn is done for the purpose of indicating to the taxpayer and the public official how tax money and other revenue was collected, where it went, what was secured for it, and to give suggestions for securing a larger return for the money expended wherever it seemed practicable. Therefore, receipts were analyzed as to source, and expenditures were broken up into unit and functional costs as far as possible.

A complete survey is usually made of the general accounting system, together with an examination of auxiliary records, wherever it seems desirable. Vouchers and warrants, together with records and accounts, are examined, where necessary for a satisfactory check.

In order to have adequate and true information of the results of the expenditure of county funds, for example, we make an inspection of

county jails, garages, county poor farms and hospitals, and other public properties.

We attempt to show how the same service might be obtained for less or how more may be secured from the same expenditure by modifying practices in the light of past experience. Unit costs, together with comparable unit costs in other counties have been presented so as to make this information more intelligible to the taxpayers and officials.

The methods employed in making these studies are: (1) field examination and analysis of accounts and records; (2) interviews with officials and citizens; (3) examination of physical properties, such as schools, institutions, buildings, roads, and other public property in so far as is necessary; (4) exhaustive analysis and study of all material records and data gathered in the field or from any other source.

In order that local government may function, three things are necessary: First, a structure of government or an organization of local government machinery; second, a personnel for the operation of this machinery; and third, a method of procedure for carrying out the law.

It is of prime importance to study the structure and organization. For example, the present county organization has been handed down for over a thousand years with practically no change. It seems desirable, therefore, to develop clearly all the facts concerning the structure of government in each county, to construct organization charts showing the relation or lack of relation between county officials and agencies, and to prepare a careful analysis of the functions and duties of each official and agency. We have discovered that there is considerable variation between the legal provisions and actual practice.

A thorough analysis of the organization and functions of local government will prepare the way for making suggestions to improve the local government. It will enable you to consider the possibilities in the redistribution of functions and activities to larger districts or the state. It may suggest necessary constitutional amendments in order to change the present antiquated organization that is usually found in most of our states.

The proper organization of the local government is of primary importance. For example, while in theory one might have a defective organization efficiently operated, all experience points to the fact that it is impossible to set up and enforce proper standards for the selection and management of personnel without first providing certain safeguards in the form of organization for insuring enforcement of whatever personnel standards seem desirable. Likewise, there can be no adequate collection and control of all public funds, no complete budget system in the real sense of the word, and no sufficient accounting and reporting methods, no centralized purchasing of supplies, unless proper provision is made in the structure of government to secure these desirable aids, or to set up and maintain other proper standards of method and procedure. What good does it do to have a model budget act unless you have someone with authority to enforce it? What is to prevent a county from spending thousands of dollars for soft soap unless you have a centralized purchasing department which will work? I have seen this actually happen where they had a so-called centralized purchasing agent. A budget system or centralized purchasing department is a farce under the usual system of county organi-

zation. I agree with Professor Catherwood that progress can be made without reorganization, consolidation and centralization, but the progress will certainly be slow and discouraging to the man who pays the tax bill.

County Consolidation

County consolidation has been suggested as a solution to the problem of county government. There is a growing feeling that there is need of revising county areas to increase their size, and that there is a needless waste and unnecessary overhead cost where county officers serve a small county. With the improvement in highways and the use of new means of transportation, it seems that there is little need for counties of less than 1,000 square miles.

Our studies show that the poor counties in Colorado spend twice as much per capita as some rich counties for county government and that three quarters of a million dollars could be saved annually by county consolidation. The small counties took three times as much income to support county government as rich counties. The amount of delinquent taxes in the small counties increased from 20 to 40 per cent when the valuation of a county dropped below 20 millions of dollars.

In Colorado there is a block of eight contiguous counties which had a population of only 31,743 in 1930. Seven buildings in Denver, for example, have approximately as much value for taxation purposes as five adjoining counties in Colorado containing only 6,220 people—the size of a very small town. Attention is directed toward this comparison to show the possibilities for constructive economy through reorganization of local government and the elimination of useless counties. However, the obstacles to be overcome, such as constitutional changes, political opposition and the opposition of office holders are so great as to make the reform very difficult to attain. Professor Catherwood may be correct when he states that consolidation means increased expenditures but it should reduce the unit cost of governmental service. It will mean improved services and more equitable taxation. As a means of overcoming these difficulties that face county consolidation it is believed that quicker results in reducing property taxes can be obtained by a redistribution of county functions to units of larger area or to the state.

Highway Finance

At the present time the Colorado Agricultural Experiment Station is conducting a highway finance study in cooperation with the Rocky Mountain University Research Council of which it is a member, the United States Bureau of Roads, the University of Wisconsin, and the State Highway Departments of Colorado, New Mexico and Wyoming. The Rocky Mountain University Research Council embraces all the private and state institutions of higher learning in Colorado, Wyoming and New Mexico.

The purpose of this investigation is as follows: (1) to study and analyze the direct and indirect highway receipts and disbursements of the state and of the counties, municipalities, and other political subdivisions thereof; (2) to develop facts and information showing the effect of highway and related taxes on property of all kinds; (3) to develop the total amount of revenues raised for all other governmental purposes of the state, counties, and local units as compared with the revenues raised for

the highways, bridges, and streets; and (4) the relations established between highway taxes paid, highway expenditures, and travel on the various local, county and state systems. Wisconsin, Illinois, Michigan, Minnesota, Vermont and New York have made similar studies.

Already we know that most of the counties do not have accurate road maps showing county roads. Very few of them know that roads have been graveled, and in many counties they do not know what roads belong to the county. The counties will have all this information when we complete the study.

The results of this three-state survey of highway traffic should offer an accurate indication of who pays for the highways and who uses them. At the present time we do not know who pays the bill. This study should form the basis for a modern system of highway finance in these three states and indicate whether farmers as a class are paying more or less than their fair share of the highway tax burden.

The Need for Studies in Sub-Marginal Areas

At the present time we are making studies of certain sub-marginal areas in Colorado involving the determination of policies which will keep the cost of government and schools in sparsely settled areas from becoming too great.

Our studies of tax delinquency have indicated that unduly large expenditures of public money in these areas must be avoided. The presence of idle land or land of low value contributes to the scattering of the population and this tends to increase the costs of local government.

The costs of local government can be dealt with in part by a system of zoning. Areas near the National forests unsuited to farming can be included in the forest area. Plans are now being made to restrict the crop area in other sections and by a system of purchase or transfer, the Federal Government will set up grazing areas in these low producing areas. Research is needed on sub-marginal areas to facilitate the proper future development of the state.

What Should Be Done to Reduce the Cost of Local Government

Here are some of the steps based on careful study that would really accelerate the reduction of local government costs:

First, a revision of all laws that encourage waste in local government;

Second, a repeal of those constitutional and statutory provisions of existing law that discourage, if not prohibit, in actual practice the honest and efficient administration of local government;

Third, the establishment of a set of standards of service for local government to be adopted to the different units based on the actual needs of the community or locality;

Fourth, the adoption of constitutional and statutory provisions which will enable the localities to adopt the type of local government the people can afford and which is flexible enough to meet the varying needs of different localities. In other words, a system of home rule for localities that will be flexible.

The excellence of this solution is demonstrated by the fact that many of these suggestions are now being tested out in several states. We may

have an opportunity to test out some of them in Colorado. The interim committee on county government in Colorado has recommended a constitutional amendment permitting county consolidation, optional forms of local government, and zoning. This committee has also prepared bills providing for the receivership of local governments, and the transfer of the welfare and road activities of county government to the state with the provision that no taxes on general property can be levied for the support of these functions. We hope to accomplish certain reforms by means of a rear attack rather than by a frontal attack. This is a painless method of gradually taking away the more important functions which can better be handled by the state.

Education of the Public Needed

There is general agreement that the primary purpose of an experiment station is research—particularly research with a service end in view. Our business is to bring all the resources of science to the solution of practical problems of agriculture; to diffuse and aid in applying as well as to acquire useful information. Since farm taxation is closely tied up with local government it is necessary to study local government if we are to arrive at a sane solution of the farm tax situation.

We have found everywhere approval for increased use of fact-finding in connection with taxation and control of expenditures in local government, whether it be the mere assembly of available knowledge or the discovery of new facts. Scientific truth is genuinely educative. The presentation of half truth, with the other half of the truth concealed or ignored, is mere propaganda. Education, rather than mere agitation, is one dependable guarantee that we will have a good tax system with economy and efficiency in local government.

Pertinent facts accurately presented are a reliable antidote to the evils of ignorance or misrepresentation in farm taxation or local government. Professor W. L. Ripley of Harvard University has said that: "Many remedies for undue concentration of power of corporations have been suggested. There is one which stands forth preeminently. Publicity is likely to be the most serviceable as a check upon otherwise unrestrained control."

Results are not secured by hypnotism or magic, but by continuous, tactful, businesslike presentation of facts, preferably in short non-technical newspaper articles and by personal contact.

These, in short, are some of the methods by which we can improve our local government and thereby give the farmer more for his tax dollar.

THE SOCIAL EFFECTS OF LAND DIVISION IN RELATIONSHIP TO A PROGRAM OF LAND UTILIZATION

T. Lynn Smith
Louisiana State University

One can hardly consider a planned program of land utilization without thinking at the same time of transference and re-location of population. Indeed, recognition of existing gross maladjustments between the population and the land has made a program of land utilization so necessary that, apparently, it is becoming feasible. Furthermore, it must not be forgotten that the ultimate end is, after all, the welfare of the population and not that of the land—a point which may not always be uppermost in the minds of those engaged in the practical execution of such a project.

Decades, if not centuries, of inattention and neglect have contributed to the situation in which American farmers by the hundreds of thousands strive to eke out a bare subsistence by tilling miserable, arid, eroded, worn-out, shallow, or otherwise poor, infertile and unproductive soils, while wide expanses of the most fertile and productive land in the country lie in idleness rapidly reverting to wildernesses. Louisiana furnishes an excellent example of the need for a rational program for bringing about a more equitable adjustment between the population and the land. At the present time it is conservatively estimated that the rich delta "sugar bowl" in the southeastern part of the state alone contains at least 500,000 acres of land that, although producing rich and abundant crops but a few decades ago, now lie idle, uncultivated and neglected, their drainage ditches choking and filling, briers and thickets springing up with amazing rapidity. The same tragic tendency has been present in the cotton regions of the deltas.

So much for what has happened to the land. Now let us consider the people. A careful analysis of changes in Louisiana's population shows that the "sugar bowl" and most of the delta cotton areas contained fewer inhabitants in 1930 than they did forty years earlier in 1890. But in the meantime in the "cut-over" and hilly sections of the state, population has increased with remarkable speed. This can mean only one thing: namely, that there has been a tendency in Louisiana for larger and larger proportions of the population to be located on the poorer lands. The aggregation of population upon the most unproductive lands and the depopulation of fertile territories make it apparent that

it is useless to think of land utilization without taking into consideration the transference and re-location of population.

Transference of population offers an opportunity, nay! some of us think it presents a responsibility, for a "new deal" in land division and rural organization. To be sure sociologists, as such, are primarily interested in the phase pertaining to rural organization. However, although but little has been said about it in this country, the system of survey used in land division practically sets the limits for and largely determines the possibilities in rural organization. Although the best system of land division cannot guarantee efficient social organization by itself, a poor system can effectually block the best efforts. For this reason the sociologist is compelled to be interested in the mode of land division. Perhaps this is fortunate since students in other fields do not seem to have given much thought to the matter, and if the re-location of population is attempted the grave mistake of "putting new wine in old bottles" is likely to occur once more.

Most, but not all, of the land in the United States is cut to one pattern—the familiar checkerboard system in which lands are plotted into squares: townships, sections, and sub-divisions of sections. For the great majority of farmers this has resulted in holdings or farmsteads which form either a square or a combination of squares. No doubt this is a most convenient and efficient system of dividing lands for the purposes of surveying and recording, but not from the standpoint of the people residing upon the land. And, after all, it would seem that their desires and needs should far outweigh those of the surveyor and recorder. In modern life some determinate system of land division is essential, but it will be an ironical reflection upon our boasted pre-vision and social planning, if the customary and familiar checkerboard system of dividing lands is unthinkably perpetuated in our social experiments. If adopted at all it should only be after the most careful appraisal of its strength and weaknesses has been made, and these weighed against those of alternative systems of dividing the land.

Let us consider for a moment some of the advantages and disadvantages inherent in the checkerboard system of land division. Perhaps a simple little exercise offers the most effective means of appraising its merits. Supposing one were assigned the distasteful problem of designing a system of land division that would contribute most to the social and physical isolation of a rural population. The system aimed at would disperse the population as widely as possible; make neighboring, cooperation and

mutual aid possible only with the utmost difficulty; make the securing of roads, telephone lines, electric power and lights, etc., the most expensive; make participation in the activities of schools, churches, etc., the most difficult; make marketing of produce, or purchase of supplies the most burdensome; even make the hindrances to the innocent association of children as great as possible. In brief, from the standpoint of the farm family, suppose one was to devise the most vicious system of land division that can be made. He should be graded 100 per cent or an A plus when he had developed the familiar checkerboard system and placed the dwelling of each farm family at the middle of its holdin. (See Figure 1.)

But typical of the United States in the past has been the attitude that people, including farmers, should be left to do pretty much as they choose. Therefore, some may still urge that American farmers have demonstrated for centuries that they desire to live apart from one another each a little world to himself, so why should they be interfered with? This brings us to a very important aspect of the situation. The existing system would not be so depressing if the following questions could be answered in the affirmative. Is it the result of conscious planning on the part of the individuals who are bound by it? Is it in line with the desires of the majority of American farmers? And can it be abandoned by those individuals who desire a different system? Unfortunately, all of these questions probably must be answered in the negative. Possibly the desire for a convenient, rapid and inexpensive method of surveying and disposing of Public Lands was the major factor in the adoption of the checkerboard system of survey. At any rate one able authority on the subject says:[1]

> The primary conception of Congress in dealing with the public lands was the realization of the largest possible cash return for their sale to meet the immediate necessities of national enterprise.

It should be remembered that in 1785, when this system of land division was adopted, self-sufficiency was the rule in agriculture, and that our present highly specialized, complex and intricate mode of living was inconceivable.

That many American farmers do not desire to live in the greatest possible isolation from their fellows is evident at thousands of cross-roads where the homes of four farm families will be found in close proximity. It is also evident in the still more plentiful situations where two or three farm houses are located

[1] S. V. Proudfit, *The Public Land System of the United States*, publication of the General Land Office, United States Department of the Interior, Washington, 1924, pp. 4-5; cf. Amelia Clewley Ford, "Colonial Precedents of Our National Land System as it Existed in 1800," *Bulletin of the University of Wisconsin, No. 252, History Series, Vol. 2*, passim.

near one another, even though lack of a cross-roads makes greater grouping impossible. For it must be remembered that the grouping of four homes at a cross-roads represents the utmost that can be attained in the way of aggregation of farm homes under the present system of land division. This is the more regrettable because once an area is surveyed according to one pattern and the land is settled, there is practically nothing that the individual farmer can do to alter it. I say "practically nothing" because it might be possible for some material changes to be brought about in the course of a few generations, were the practice of subdividing lands lengthwise adopted.

There is another point that should be mentioned here. It is a favorite pastime to blame farmers for their alleged lack of cooperativeness, their individualism, their non-support of social institutions, their lack of participation in public affairs. This hardly seems fair when the obstacles in the way of the alternative modes of behavior presented by our system of land division are so great that they approximate the maximum. Even if the charges were true, it might be argued with considerable reason that these are consequences of a system of social organization entirely beyond their control.

This is enough concerning the weaknesses of the checkerboard pattern of land division, although the contrast of it with another possibility will serve to bring them out more vividly. I shall not consider the village community type, which is the accepted term for a pattern of organization in which farmers dwell in a village center and commute to their farms. This system has many social advantages, offset, however, by great economic disadvantages.[2] But let us turn our attention to a system of land survey in which farms are plotted into oblong rectangles rather than squares.

For purposes of illustration let us picture to ourselves an area in which 160-acre farms are plotted into rectangles one mile long and one quarter of a mile wide. In such a pattern the farms would lie side by side, the homesteads would all be located at the end of the holdings which fronted on the road, thus forming a row. A similar line of houses on the other side of the highway would give this thoroughfare the appearance of a long street. Figure 2 represents an area laid off according to such a pattern. Now let us contrast the situation as depicted in Figure 2 with that prevailing in Figure 1 in which farms of 160 acres were plotted into squares according to the checkerboard system. In comparing the two systems let us begin with some of the most tangible aspects.

[2] See my article "An Analysis of Rural Social Organization in Louisiana," JOURNAL OF FARM ECONOMICS, XVI (October 1934), pp. 680-688.

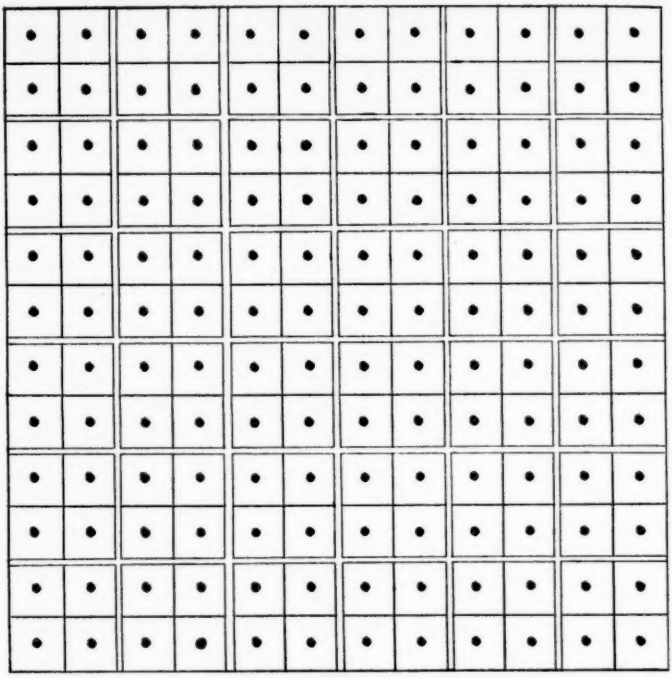


FIGURE 1. Chart representing 144 farms of 160 acres plotted according to the checkerboard pattern, illustrating the extreme dispersion of farm homes.

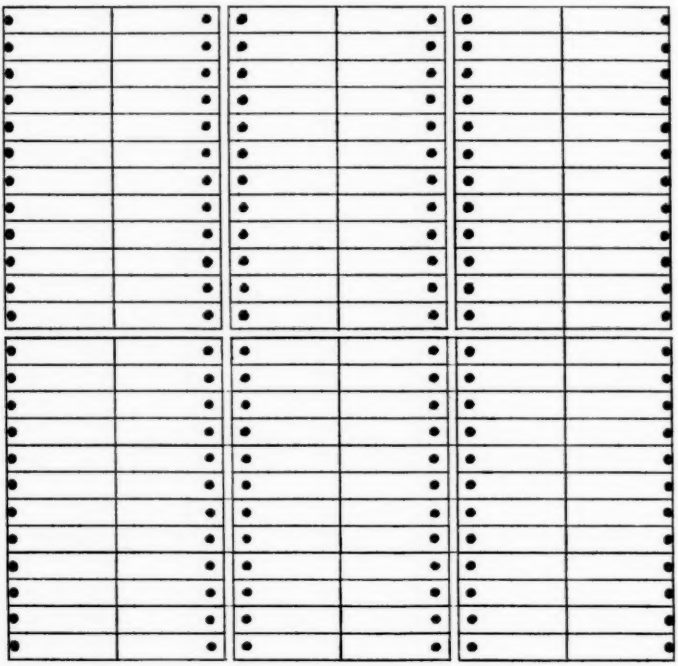


FIGURE 2. Chart representing 144 farms of 160 acres plotted into oblong rectangles, illustrating the possibilities for aggregation of farm homes.

Paved roads have been so expensive that comparatively few of our rural areas have been able to secure them. Even where paved roads are found in rural areas they have usually been built as a part of a federal or state program. In an area plotted as in Figure 2 above, one mile of pavement would pass as many farm homes as would four miles in the scheme represented in Figure 1, the checkerboard pattern. This is a tremendous saving. At one-fourth the cost, paved roads whether federal, state or local, should be much more easily and quickly obtained and kept up. Likewise the amount of line required for conducting electricity to farm houses is only one-fourth as great in the second scheme as it is in the first. The same holds good in the installations of telephones. Busses transporting children to and from school might accomplish the same result with one-fourth the mileage in the second system as compared with the first.

These are but a few of the most obvious among the merits of the oblong rectangular system which might be mentioned. Similar advantages over the checkerboard system are evident regarding almost every aspect of social and economic life. It means something to a farmer to have neighbors at hand. It may mean a great deal more to the farmer's wife. And certainly no one would wish to deprive farm children of an opportunity to know and play with other children. In almost every aspect of living the second pattern has great advantages over the first, and this applies to all members of the family, men, women and children. Furthermore, the aggregation of population possible under the second system greatly facilitates the work of anyone desiring to contact farmers. Certainly the Post Office Department would be able to handle its rural free delivery system much easier. The marketing of perishable products such as meats, ice and dairy products, to those farmers not producing their own supply, would be greatly facilitated. And in turn, collection of milk, eggs, and other things the farmer has to sell would be possible with much greater ease and rapidity.

The comparison we have just been making involves farms of 160 acres. A change in the size of the holdings will change the 4 to 1 ratio of advantage. Thus were a similar comparison made with forty acre plots—forty acres is the typical farm in Louisiana—the ratio of advantage would be 5 to 1 in favor of the rectangular system. In smaller plots the advantage would be greater still.

Again the length of the rectangles affects the ratio of advantage. If the length were less than one mile the ratio of advantage, from the standpoints we have been considering, would not be so great. Were the length greater than one mile, the advantage

would be greater too. Of course it is possible to make the strips so thin that farming operations would be greatly hindered. This possibility must be guarded against.

Some people are prone to voice the hackneyed expression, "It sounds very well in theory, but will it work in practice?" Others might be liberal enough to express a desire to have the idea experimented with in order to determine whether or not it would work. However, to both the reply can be made that it is not a new idea. It has been tried so many times, for such long periods, and under such diverse circumstances, one can confidently assert other things being equal it will work.

It is not known definitely where the idea of dividing lands into oblong rectangles first originated, but France seems to be the center from which it has been diffused in historical times. As early as the eighth or ninth centuries an oblong block of land 30 rods broad and 720 rods long, known as the *mansus regalis,* was widespread in the Frankish realm. Its diffusion from there seems to have followed the fortunes of the Carolinians (751-987). The idea soon took root in Holland where[3]

the cultivations of moorlands began very early. These marsh and moor *Hufen* were surveyed almost without exception in straight strips, a practice which also soon came to obtain in forest clearings, or *Waldhufen.*

From Holland it seems to have been carried into Germany by Dutch migrants. There is a record[4]

of a colony of Hollanders settled by the archbishop of Hamburg in 1106 in the marshes of Weser near Bremen.

Holstein, Mecklenburg and Brandenburg were largely colonized in this way. The system in time was widely extended, however, as the restless population of Germany in the twelfth and thirteenth centuries searched out for themselves new homes in the wilderness or in less-frequented localities. Parts of the Black Forest and the Odenwald, of Upper Barvaria, of the upper reaches of the Mulde and the Pleisse, of the region between the Lippe and Luneberg were so settled. The same is true of nearly one quarter of Silesia and the marshland in the basins of the Oder, the Wartha, and the Netze.

These quotations should be sufficient to make evident that this type of land division has had a long and important history in Europe. But it has not been confined to the Eastern Hemisphere. French colonists brought the pattern to America where, with a waterway or a road as the point of departure, it was widely used in the settlement of both Canada and Louisiana. In both regions it still persists, accepted as a matter of fact by the population in these areas as fully as the checkerboard pattern is by the Iowan. In the French Colonies strips longer than one mile were the rule.

[3] See James Westfall Thompson, "East German Colonization in the Middle Ages," *Annual Report of the American Historical Association,* 1915, p. 145.

[4] *Ibid.,* pp. 145-146.

For example in Louisiana the ribbon-like strips of land are customarily 40 arpents deep, and many are only one arpent wide. As an arpent when used as a measure of area is equal to .85 of an acre, this means that a typical holding in southern Louisiana consists of 34 acres and is forty times as long as it is wide. On the St. Lawrence, farms of 90 arpents are typical, having breadths of about 180 yards and being approximately ten times as deep as they are wide.[5] As I have pointed out elsewhere, the settlements established on this pattern bear a close resemblanc to a long, winding one-streeted village. In fact this type of settlement in Europe is referred to as the "line" or "street village."[6]

Recognition of the advantage of this system of making the width of holdings slight as compared with their depth has not been confined to the French, Dutch and Germans. Lord Selkirk, a famous Scotch Colonizer of the 19th Century, came to recognize its usefulness while engaged in colonization projects on Prince Edward Island and in Ontario.[7] The French settlements which had been established according to this pattern in these areas impressed him so much that he imitated their system of land division in his famous Red River settlements in Manitoba.[8]

It should be unnecessary to say more concerning land division. In the foregoing discussion the attempt has been made to do three things: (1) to call attention to the existence of other methods than the checkerboard system, lest what the sociologist designates cultural inertia should permit the unthinking and unchallenged adoption of the checkerboard system, even in an experiment in social planning; (2) to present an alternative which is as simple, precise, and determinate for surveying and recording as the checkerboard system, while at the same time possessing great advantages from the standpoint of the social and economic welfare of the population; and (3) to demonstrate that this alternative should not be thought of a new, untried system, since it was in successful operation for centuries before America was discovered, has worked among peoples of greatly different temperaments, has been adapted to natural surroundings varying from the swamp and moor to the forest, and is not even new to America but has persisted here for many generations. In view of its obvious advantages, it is felt that the necessity of giving consideration to its merits cannot be too strongly urged.

---

[5] C. P. Lucas, *Lord Durham's Report on the Affairs of British North America*. Oxford (1912), Vol. II, p. 176.

[6] Thompson, *op. cit.*, pp. 145-146. Cf. Dwight Sanderson, *The Rural Community*, pp. 174-175.

[7] John M'Gregor, *British America*, Vol. I, pp. 505, 525; W. H. Smith, *Canada: Past, Present and Future*, Toronto, Vol. I, p. 2.

[8] *A Handbook to Winnipeg and the Province of Manitoba*, prepared for the 79th Annual Meeting of the British Association for the Advance of Science 1909, pp. 67-68; S. H. Scudder, *The Winnipeg Country: or Roughing It With An Eclipse Party*, N.Y. (1890), pp. 109-113.

THE SUBSISTENCE HOMESTEAD PROGRAM FROM THE VIEWPOINT OF AN ECONOMIST[1]

WM. E. ZEUCH
DIVISION OF SUBSISTENCE HOMESTEADS
DEPARTMENT OF THE INTERIOR

It is a pleasure indeed to present a paper on subsistence homesteads to this joint meeting of farm economists and rural sociologists, although it is rather difficult to attempt to give, in the short space of thirty minutes, an adequate idea of the economics of subsistence homesteading.

At the outset, let us not think of subsistence homesteads as something new. The idea and the practice are hoary with age. I presume that subsistence gardens were inaugurated when the prehistoric mothers of mankind first began to plant wild fruits and roots about their camp fires or camping grounds rather than continue to risk their lives gathering fruits and roots in the tangled forest among ferocious beasts while their men folk were away hunting. In out-of-the-way places in our modern world contemporary primitive peoples are still following this practice. Those first subsistence gardens were supplementary to hunting and fishing and I can well imagine that they often saved the primitive horde or clan from hunger or starvation when there had been no luck at hunting and fishing. Those first primitive subsistence gardens were a means of economic security, a protection against scarcity in other sources of food supply, and they have come down through the ages as an economic institution providing security and protection against hunger and starvation.

When we turn from the prehistoric and the primitive, or from the historic Old-World picture, to the strictly American scene, we find that subsistence farming and subsistence gardening have been an integral part of our national development. As the pioneers spread westward across the continent, all frontier farming was subsistence farming. The pioneers did not farm for a market but for home consumption, or as we would say today, they produced for use. And our colonial and frontier farming remained largely if not exclusively subsistence farming until the concomitant development of industrialism and improvements in transportation caused the growth of cities which created a market, thus changing subsistence farming into farming for the

(EDITOR'S NOTE: Since this paper and the one that follows by Dr. Carl C. Taylor were prepared, the subsistence homesteads program has been transferred to the Resettlement Administration.)

[1] This paper was read at a joint meeting of the American Farm Economic Association, and the Section on Rural Sociology of the American Sociological Society, Chicago, December 27, 1934.

metropolitan and world trade. So the independent, frontier, pioneer subsistence farmer became a farmer dependent on domestic and world markets for his economic well-being.

Then as industrialism entered the United States the earliest industrial workers in New England, who had been farm boys and girls, did not forsake the farm and farm ways entirely. From the very first, a goodly number of them remained on their small acreages adjacent to rising industrial towns and combined part-time farming or gardening with work in the mills. In many cases, some member of the family would garden or farm in a small way, largely for family use, while other members of the family worked in the factories. What was done in early industrial New England and continued to this day has been duplicated in some measure in all newly rising industrial areas of the United States as they developed one after the other. So much has this been the case that the 1930 Census reveals that there are 378,000 subsistence farms or subsistence gardens in this country totaling 1,908,000 acres, an average of approximately five acres each. Consequently, we cannot look upon the subsistence homestead idea or practice as something new either in the world at large or in the United States in particular.

It is true that the establishment of the Division of Subsistence Homesteads marks the first conscious and deliberate attempt on the part of any administration in the history of the United States to promote, finance and build subsistence homesteads as a part of government policy. But this is no new thing for governments as such to do. Had I the time I would tell you the long history and notable achievements of foreign governments, particularly those of Scandinavia, in government promoted and financed homesteads. Briefly, I can state here that between 1905 and 1930 the Swedish government developed almost 36,000 small agricultural holdings and that since 1920 the German government has removed 66,000 families from industrial areas out onto *kleinsiedlungen*. These are the equivalent of what we call subsistence homesteads. We, as a government, are merely embarking on established and proven governmental undertakings.

Subsistence homesteads, per se, under both private and governmental auspices, are so old, so accepted, and so sound that I take it you want no discussion of them as such but rather a presentation of our present governmental subsistence homestead program and the peculiar problems we have been faced with in inaugurating it under governmental auspices. Further, I take it that, in the face of the tremendous lag in house construction, the

breakdown in our prevailing economic system, the great need for adequate homes and the unprecedented unemployment, there is no question as to the *why* of subsistence homesteads under governmental auspices at this time. If private capital and private initiative were employing all employable workers, and, among other things, building homes adequately, soundly and at reasonable cost for the low-income groups, there would be no need of the government taking on the function of building subsistence homesteads. But since private capital and private initiative have failed us, a national emergency has arisen and the government of necessity has had to step in to preserve, to protect, and to promote the common good. Subsistence homesteads are just one agency toward that end.

When Congress passed the national industrial recovery act with its section 208, a fund of $25,000,000 was created to aid in the redistribution of the overbalance of population in industrial areas. This $25,000,000 was looked upon as a fund for demonstrational purposes in the field of subsistence homesteading. Within three months of the passing of the act and the setting up of the Division of Subsistence Homesteads under Secretary Ickes of the Department of the Interior, many hundreds of applications were received from sponsoring groups asking altogether for many hundreds of millions of dollars for subsistence homesteads. Naturally, these applications reflected all sorts of interests. A goodly number were from groups who had worthless lands they wished to unload on the government. Others were inspired by a desire to unload defunct factories. Many were the sheerest sort of economically unsound pipe dreams. But, of course, there was a fair percentage of bona fide appeals that stood the test of investigation. To date, 63 allocations of funds have been made totaling approximately $18,000,000. Of this sum, less than $5,000,000 had actually been spent up to December 1, 1934.

The 63 homesteads approved represent many different types. There are subsistence homesteads for tenant farmers, for stranded miners, for part-time employed industrial workers, for seasonally employed industrial workers, for Indians, for Virgin Islanders, for groups of low income industrial workers who wish to try out cooperative homesteading, for Negro longshoremen who have days of free time each week, for mountaineers who must be removed from national park areas to valley lands, and for low-income white-collar folks who have an urge to get back to digging into the soil mornings, evenings, and week-ends to supplement their low cash incomes with home grown foodstuffs. We

have even had applications from groups of low-paid college professors and government employees, but in such instances our doubts have thus far overcome our sympathies and no allocations have been recommended.

When the Division of Subsistence Homesteads was set up, it was thought that its work could be furthered best by means of local corporations. After some months of trial, Secretary Ickes deemed it prudent and in the best interest of the whole program to federalize all the activities of the Division. The process of bringing the local corporations within the federal set-up, as would be expected, has taken considerable time. Concurrently methods for federal operation and control have been worked out so that an expanded program could be assumed without undue delay.

Out of the first year of its experience, the Division of Subsistence Homesteads has arrived at certain criteria for action. Since the money voted by Congress is a revolving fund, the economic soundness of a homestead project is of prime importance. The homesteaders must have a reasonable expectation of ability to repay. This means that the Division of Subsistence Homesteads cannot establish homesteads for tenant farmers or for stranded industrial workers unless the establishment of such homesteads is on supra-marginal lands with proven farm incomes, or else unless the homestead is supplementary to some other source or sources of non-agricultural income. In order to get the homesteads within the reach of low-income groups, long amortization at low interest rate was imperative. A thirty-year period of amortization at 3 per cent was, therefore, established. Such a long amortization period in turn required two things, well-constructed, low-cost houses and fairly young homesteaders. It takes a good house to stand up well over thirty years and it requires a fairly young man to assure expectation of life and earning power long enough to pay out. The thirty-year repayment period requires also that the permanency of the industry in any area proposed for a homestead must be carefully investigated and ascertained. Such a long repayment period makes the establishment of subsistence homesteads in a dying industrial community most unsound and unthinkable. Yet it is the people in just such dying industrial communities who need aid most and who make the strongest appeal to our sympathies. And naturally such communities are quite insistent in their applications for homesteads. Also, it is the people in the age group over forty-five, the age group approaching the industrial scrap heap, who need subsistence homesteads most, yet our necessarily long repayment

period makes persons beyond forty-five, unless they have responsible children to carry on the payments, doubtful prospects for homesteaders.

These few problems are indicative of the many problems facing a subsistence homestead program under governmental auspices. They point out the necessity of careful planning for such a program. And the planning must be national rather than state or regional. Our industry life today is national rather than regional. If we think of subsistence homesteads for steel workers, we must think in terms of the Gary and Birmingham areas as well as of Pittsburgh. Pittsburgh may be the dying steel center of the United States. To go into the Pittsburgh area and plan subsistence homesteads for it as an independent industrial region without taking into consideration other steel regions and their bearing on the Pittsburgh situation would be foolish indeed. What is true for steel is true for textiles, for chemicals and for all other industries. When we consider our thirty-year repayment plan we must try to ascertain where industries and industrial populations will be over the next thirty years. To plan subsistence homesteads nationally and wisely calls for the closest kind of cooperation between government and industry. And I should say in passing that the larger industrial organizations have thus far given us their closest cooperation in our efforts to ascertain probable industrial trends.

Careful analysis to assure ourselves that we are putting homesteads in the path of industrial development or in firmly established industrial communities is just the beginning of our planning problems. Once we are sure as to the area we have still to determine the correct location within the area. In order to do this intelligently, we must make careful local surveys covering topography, soil analysis, crops, drainage, water supply, utilities, transportation, and availability of schools, churches and other cultural agencies. Once these particular economic and sociological questions are answered satisfactorily, there still remain the problems of type of housing, the selection of homesteaders, and community development.

Although the obvious purpose of a subsistence homestead is a good home for the homestead family, we must not forget that such a homestead must be considered with regard to its appreciation and depreciation—that is, with regard to the soundness of the investment. Since low or moderately low-income families put the savings of a lifetime into a home, the investment should be most carefully studied. Each dollar spent should bring its dollar's worth of good housing, and good housing means not only

pleasant, comfortable shelter, but a desirable livability of the house for the next thirty or forty years.

Impossible as it is to forecast the best types of houses for 1950 or 1960, or even for 1940, it is possible properly to locate and design and construct them with regard to the known governing conditions that will discourage depreciation and obsolescence. In addition to the correct location as to industrial area, mentioned above, the most significant features of housing are wise planning within a particular region, careful location on the homestead site, and standard, modest, modern house design, and durable construction.

After some months of experimentation, our subsistence homesteads are now being located with due regard to the present and future development of a particular industrial region. This includes the proper land uses of the region, the probable decentralization of industry and the resultant shifting of population. In the past, residential areas have gone wrong chiefly because of a lack of careful and orderly community planning. We must, in every case, be assured of easy access to established centers of employment, to such services not located on the homestead as are needed by every family, to schools and to other cultural centers—in other words, be assured of the suitability of the proposed homestead site for residential as well as agricultural purposes. All these factors affect the original desirability of any property proposed for a homestead and will determine its continued economic value.

The values of residential property depend not only upon the general location of a site and the relation of that site to neighboring facilities but also upon the land planning of the homestead site itself, its layout into individual building plots and the correct location of roads, community buildings, utilities, etc. A due regard for drainage, landscaping and utilization of natural watercourses also affects the desirability of the homestead. The practical usability of a site and its beauty and attractiveness together determine its economic value.

The individual homestead layout must not only permit the greatest freedom from the standpoint of livability, but must also be properly oriented with regard to other homestead units. The building of a subsistence homestead project is the building from the ground up of a small community, therefore it may and should be developed according to a logical plan. This protects the homesteader's investment from the usual hazards that come with haphazard developments.

The full economic value of a house itself and its continued

future usefulness are realized only through good house planning and standard, modern designing. In order to save every possible square foot of floor area, house uses must be carefully analyzed and minimum standards, general in nature, established on room layout, room size, ventilation, lighting and privacy. Modest, modern standards encourage maximum use of houses, discourage room and house congestion, provide for the fullest measure of privacy and make possible simple and easy methods of household operation. In practically all houses, no matter how modest, such conveniences as electricity, running water and central heating are included. Then, too, when we view past housing, we are forcibly reminded that depreciation and obsolescence overtake a home almost as quickly because of ugly architecture and bad design as because of shoddy construction.

Most of our homestead houses are being built at a cost varying from 18 cents to 23 cents a cubic foot or a total house cost of from $1,500 to $2,500 depending upon the size of the house and the region in which it is located. Usually complete homesteads—including land, house and equipment—range in cost from $2,500 to $3,500. With an amortization period of thirty years and an interest rate of 3 per cent, the fixed payments for the entire homestead will amount to from $10 to $15 per month, a sum considerably less than the prevailing rents paid by low-income families in most industrial communities.

The selection of homesteaders is preponderantly an economic selection. While other factors are considered, of course, the most important questions are the annual income of the wage earner, the annual family income and the expected future income. The prospective homesteader must have not only enough prospective income to meet the regular payments over the next thirty years, but he must have also sufficient above the annual payments on the home and subsistence from his land to provide a well-balanced living for his family. This means that when from 20 per cent to 25 per cent of his cash income is allotted to paying for a home, the balance must be sufficient to provide for clothing requirements, household operations, transportation, medical care, recreation and some miscellaneous items. As the maximum amount of food that can be raised for family consumption on any type of homestead varies from 50 per cent to 80 per cent of the amount of foodstuffs needed, $15 to $20 a year cash for each member of the family must be allowed for the food to be purchased outside of the homestead.

All of these considerations have compelled the Division of Sub-

sistence Homesteads to consider with great care the question of the income group for which subsistence homesteads should be built. It is obvious, of course, that some kind of cash income is imperative. Since ours is a revolving fund that must be repaid, we must leave the utterly stranded industrial and agricultural workers to the relief agencies. The minimum income of our homesteaders must be such that 20 per cent of it will amortize the loan required to build the homestead. The total cost of our homesteads, with a few exceptions, varies from $2,000 to $3,500 each. As the annual payment on $1,000 for 30 years at 3 per cent equals $50.60, it is obvious that the total annual payment required from homesteaders will vary from $101.20 on a $2,000 homestead to $177.10 on a $3,500 homestead.

In order to meet the annual payments on the cheapest homestead we construct, that is, a $2,000 homestead, it will be necessary for the homesteader to have an annual cash income of 5 times $101.20, or $506.00. To meet the annual payments on a $3,500 homestead will require 5 times $177.10 or an annual income of $875.50. It is the aim of the Division of Subsistence Homesteads to provide homesteads for families in this low-income group, although circumstances have sometimes compelled us to go somewhat higher.

We have had considerable discussion within the Division, of course, as to the highest income group we should serve. Our decision in this matter has been largely determined by the lowest income group ordinarily served by private construction companies. Our investigations lead us to believe that the private construction companies do not ordinarily consider persons with incomes of less than $1,200 good risks for home building purposes. Their rule of thumb is that they will build a home with a cost of not more than two and one-half times the annual income of the head of the family. Under this rule, a family with a $1,200 income could afford only a $3,000 home and such a low cost house is not attractive to private contractors. Then we must not forget that the private loaning agencies and the private builders charge anywhere from 6 to 12 per cent interest for building loans depending upon the section of the country and local conditions, and that they also usually require anywhere from 20 to 50 per cent of the cost of the homestead as a down payment. To these conditions the private loan agencies add a relatively short repayment period. Families with an income of $1,200 or less find it next to impossible to save the amount of down payment required. Also, the high interest rate and high annual payment

made necessary by the relatively short repayment period makes a purchase of a home under private financing next to impossible for low income families. Consequently, we have thought of the income group from $500 to $1,200 as the group that logically falls within the field to be served by the Division of Subsistence Homesteads. This is the group that private initiative does not ordinarily take care of, even in the best of times.

It may be asked why we have arbitrarily determined on from 20 to 25 per cent of the cash income as the amount that the homesteader could safely pay yearly for amortization of his homestead. Studies of economic practices among home purchasers, especially in the low-income groups, indicate hazardous sacrifices and unbalanced income distribution in order to pay for the home. For instance, a study made in 1932 of the effect of home purchase and home ownership on 789 families shows a decreased budget allowance for clothing in 303 families, for education in 101 families, for books in 203 families, for vacations in 231 families, for life insurance in 111 families and for savings in 510 families. In other words, the purchase of a home by the ordinary low-income family leads to an unhealthy unbalancing of the family budget.

In some instances, we have found that low-income families have paid as high as 50 per cent of annual income toward buying a home to the detriment of the living standards of the whole family. We have also discovered that rents paid by low-income groups often equal 35 to 40 per cent of the annual income. In establishing 20 to 25 per cent as an amount that could reasonably be allocated for payments on a home, we have made it possible for every subsistence homestead buyer to have a balance of income that will permit normal living conditions.

It may appear to many that we have allowed too little for the total cost of the homestead, especially in the case of persons with low income and large families. The Division of Subsistence Homesteads has attempted to provide for their situation by building houses so planned that additions could be made in conformity to the general architecture. This permits the addition of rooms when the family has accumulated sufficient surplus to afford them. In some of our projects, where the family cash incomes average little more than $500, we have planned two and three room cottages that may be expanded to four and five room cottages when the family income or savings permit.

Since a subsistence homestead consists of from 25 to 300 homes, we have, in some places, all the problems that ordinarily face community development. The smaller homesteads of from 25 to 50 houses, when located immediately adjacent to a city, may pre-

sent no community problems. In such instances, the community needs of the homesteaders may very well be fully provided for by the city. The children go to the city schools, children and parents attend the city churches, utilities and fire protection are provided by the City Government, etc. But in the case of the larger subsistence homesteads or in the case of smaller homesteads located some distance from the city, we are faced with all of the problems of ordinary community development. If the local schools do not have sufficient room, we must contact the school authorities to make sure the schools will be enlarged. If the utilities are lacking, we must develop the water system, electric power system and, in some instances, even the sewerage system for the homestead. Where the subsistence homestead is in a relatively isolated section, we must think in terms of a community center and sometimes see what we can do to encourage the establishment of a religious center for the homesteaders. It is also true that even in some instances where subsistence homesteads are adjacent to a city, we have found it expedient to develop our own community centers because the city or city area is especially deficient in organized community centers.

All these problems of the development of community life, no matter whether they have to do with health, sanitation, education, taxation, police protection involve economic considerations. some one must pay for them. If the costs are not borne by some local governmental subdivision, then they must be borne by the Federal Government as a part of subsistence homestead development. When this last is the case, it means a much greater cost to the homesteaders than in the instance where these community services are already provided by existing municipalities or other local subdivisions.

But perhaps I have already given you enough, or more than enough, of the kind of problems with which the economist is faced in the Division of Subsistence Homesteads. We approach our problems with much humbleness of spirit and with a full awareness of our lack of specific information at many points. There are problems in governmental subsistence homesteading in the United States that did not arise in the experience of European governments. We have many problems that are strictly regional. Then there are still other economic problems that are purely local. Everything considered, however, the first year of subsistence homesteading has given the Division of Subsistence Homesteads a wealth of first-hand experience and a fund of invaluable information with which to carry on and expand its work.

SOCIAL AND ECONOMIC SIGNIFICANCE OF THE SUBSISTENCE HOMESTEADS PROGRAM—FROM THE VIEWPOINT OF A SOCIOLOGIST[1]

CARL C. TAYLOR
AGRICULTURAL ADJUSTMENT ADMINISTRATION

At the Farm Economic Association meeting in 1933, in discussing the topic, "Research Needed as Guidance to the Subsistence Homesteads Program," I said the topic assigned me was difficult to discuss because, "No one had yet come forward with a satisfactory definition of what a subsistence homestead is or should be," and "that research was as much needed for guidance into the correct area of subsistence homesteads operation as for guidance to a program once this area is determined." I do not believe that anyone acquainted with the facts will claim that the confusion has cleared much in the last twelve months. Policies and ideas may have changed about the correct business procedure of erecting homesteads houses and new interpretations may have been given to section 208 of the national recovery act, but neither of these begins to touch the issues at stake in the subsistence homesteads movement.

I do not know that the sociologist has any greater contribution to make to the issues and problems of subsistence homesteads than some others. I do know that no one has learned all about what to do and how to do it by setting up subsistence homesteads communities in the United States during the last year and a half for the experience is not yet elaborate enough or mature enough to warrant anyone's claims to profound knowledge on the subject. Assuming, however, that those who have been wrestling with the problems for a year or more have some ideas on the subject, I recently sent a brief questionnaire to certain individuals, every one of whom has been intimately identified with one or more subsistence homesteads projects for at least a year. This questionnaire was comprised of the following questions:

1. "What is your idea of what a Subsistence Homesteads project is supposed to accomplish?"
2. "What handicaps have you experienced in your project or projects in attempting to accomplish this objective?"
3. "What suggestions do you have for removing these handicaps?"
4. "Who should be selected as homesteaders?"
5. "What sort of applicant should be absolutely rejected?"
6. "Between what ranges of prospective or guaranteed income groups should the homestead families be selected?"

[1] This paper was read at a joint meeting of the American Farm Economic Association and the Section on Rural Sociology of the Amerian Sociological Society, Chicago, December 27, 1934.

7. "What should the individual homestead properties cost?"
8. "In what part, if any, of the construction and development of the homestead project should the homestead families be asked or permitted to participate?"
9. "How long should the homestead family be given to pay for its property?"
10. "What cooperation should the community (other than the homesteaders) be asked to furnish?"
11. "What supervision, if any, should be furnished homestead families after they have occupied their homesteads?"
12. "How would you set up another homestead unit if you could do it your own way?"

I did not circulate this questionnaire with the idea that I could present my findings as guiding policies for the Division of Subsistence Homesteads or as scientific conclusions in this paper. Neither did I ask the twenty persons to whom it was sent to answer the questionnaire to prove that there is a welter of confusion in the subsistence homesteads program. I asked the dozen questions of persons who are wrestling with the problems out in the field where houses are being built and homesteads families selected in order to get last-minute information on things that are transpiring in this interesting nation-wide experiment, all of them persons with whose ideas of six months and a year ago I was acquainted. I have watched the experiment closely, but they have all been with it during the seven months since I left the Division of Subsistence Homesteads and I wanted to know not only what had happened on their projects but what had happened to their thinking.

I received thirteen replies in which of course there was expressed a great difference of opinion. Some believe that the local community should be left almost entirely out of the planning and construction program and be asked to assume no special responsibility for the homestead community after it is occupied. Others believe that the whole project should be conceived, planned, constructed and operated under the guidance of a local board with no assistance from the Washington office beyond technical construction advice. Some believed that the homesteaders should construct their own homes either as a cooperative enterprise or individually. Others believe that no homesteaders should even be selected until a "turn key" job is completed and all homes ready for occupancy. Some believe there should be no supervision or guidance at all after the settlers have entered upon their homesteads. Others believe the supervision, guidance and service should last for as long as five years, be rather elaborate and of many kinds—educational, recreational, agricultural, in cooperative movements, in boys and girls club work, in health work, etc.,

and that the costs of these services should not be charged against the costs of the individual homesteads.

I am sure the differences of opinion among those who are working intimately with specific homesteads projects are no greater, if as great, as among dozens of other persons who talk about and seek to influence the policies of the movement. Among this latter group are those who believe the subsistence homesteads movement should be synonymous with a planned back-to-the-land movement, those who believe that it should be nothing more than a low cost housing movement, those who believe it should be used as a lever to start the almost complete decentralization of industry and thus the demobilization of great cities, those who believe that it is the first step toward a recrudescence of the simple handicraft life, and even those who believe that the whole idea is ill conceived.

As a starting point for a more basic discussion than what the replies to my brief questionnaire reveal or what writers of articles for popular periodicals think, may I say that the old country philosopher who said the greatest lesson he had learned in life was, "how to cooperate with the inevitable," probably stated the basic justification for a subsistence homesteads program and offered a cue to the field which subsistence homesteading should occupy and work out in our national life. There are certain population trends into which subsistence homesteading can not only enter but probably somewhat guide and which I doubt the wisdom of its attempting to alter. There are certain technological trends which it probably dare not violate. There may possibly be biological trends of which it should take cognizance. In addition to the necessity of giving consideration to these basic trends there is the opportunity, if not necessity, of its utilizing the cumulative experience from projects and movements similar to those now being projected by the subsistence homesteads program. It shall therefore be my attempt to offer the social or cultured orientation into which I believe subsistence homesteading must fit, or fail. Before I do that, however, let me cite answers to my questionnaire which show some unanimity of opinion.

Out of the thirty different answers to the question, "What is your idea of what a subsistence homesteads project is supposed to accomplish?", twenty-two named four major objectives, viz: (1) Supply subsistence incomes to industrial workers, (2) Create a rural or semi-rural environment in which to rear children, (3) Encourage and extend home ownership, and (4) Decentralize

population. Out of twenty-four replies to the question, "What handicaps have you experienced in your project or projects in attempting to accomplish this objective?", twelve named two handicaps: (1) Governmental delay, and (2) "First costs too high." The inference distinctly was that government delay and service of "inexperts" were the chief causes of mounting "first costs." Out of twenty-three different answers to the question: "What suggestions do you have for removing these handicaps?", ten followed two main ideas: (1) That the projects would move faster and freer if the administration was under an independent authority similar to TVA, rather than in an old line federal department, and (2) That a project should be thought through before it was started rather than started with little more than a pious hope that certain things would or could be made to happen before it was completed. Nearly all agreed that the low income groups of employed or part-time employed furnish the correct prospects for homestead families and that physical and mental defectives and poor financial risks should be absolutely rejected. The majority agreed that the individual homestead properties should range from 2,000 to 3,500 dollars in costs and the prospective cash income of homestead families should range from 50 to 100 dollars a month. Most of them agreed that the amortization period should range from twenty to thirty years.

The Homesteads Program Should Furnish Intelligent Guidance to Population Trends

I hardly believe the subsistence homesteads program will initiate a new population movement. About all it can do is to "cooperate with the inevitable" and offer intelligent guidance to the suburban and village movements. There are evidences that both urban and rural populations are tending toward the greater occupation of village areas and the penumbrae of cities. Dr. O. E. Baker points out that the rural non-farm, principally people living in villages and suburbs of under 2,500 population, increased 3,600,000, or 18 per cent, between 1920-1930; that this per cent increase exceeds slightly that for the national population; that migration from farms has been chiefly from areas that are most rural, that the suburban movement began earliest and has gone farthest in the more industrialized sections, but the relative increase in rural non-farm over rural farm population was noticeable in all states.[2] McKenzie shows that as population has in-

[2] Baker, O. E., *Annals of the Association of American Geographers:* Vol. XXIII, pp. 68, 70, 82, 84.

creased and shifted, during the last three decades at least, it has tended to concentrate about metropolitan centers and that metropolitan areas are coming to contain more and more people who are classified in the census as rural but to whom urban facilities are furnished by the city centers in whose environs and under whose influence they live.[3] This is due not only to the movement of people into the penumbrae of cities but the extension of these penumbrae by means of better transportation and communication. Brunner and Kolb have analysed in considerable detail not only the well-known growth of villages but have pointed out with convincing data that even smaller cities have increasing power to pull rural population toward them.[4] Numerous studies of trade centers have been made throughout the nation during the last fifteen years by rural sociologists, all of which show tendencies of the smaller trade centers to decline and the larger ones to increase in size and function. There is also considerable evidence that decentralization of industry has begun. Thompson presents data which show that wage jobs in areas of primary concentration decreased 4.5 per cent, and those in areas of secondary concentration decreased 5 per cent, while those in all other areas increased 0.8 per cent between 1919-1929.[5] We are all well acquainted with the decentralization of some of the lighter industries such as textiles and shoes.

If it be true that the third great population movement in this nation is to be in this direction and that it is by this movement that our population more or less stabilizes itself, there is every reason why a government which is seeking ways and means of and areas for planning should set up a great governmental agency to guide and to some extent direct this movement. The first population movement—the westward movement across the continent—fruited at many places in unwise agricultural development and settlement, in wanton waste and exploitation and created one of the major problems with which the nation is now struggling. The second population movement—the migration of millions to the cities in a steady and growing stream for forty years—was also unguided and finally fruited, as it was inevitable that it would, in giant slums, increasing unemployment, falling birth rates and an unheard-of discrepancy in the distribution of wealth, income and standards of living. A nation that has suffered the results of two such unguided movements must be both careless and blind if it does not try to plot its next great population

[3] McKenzie, R. D., The Rise of Metropolitan Communities, in Recent Social Trends. Chapter IX.
[4] Brunner, E. deS. and Kolb, J. H., Rural Social Trends.
[5] Thompson, T., Location of Manufactures 1919-1929. Bulletin, Bureau of Census.

trend and seek to put intelligent guidance into that trend. It would be just as blind and foolish not to insist that the subsistence homesteads program know this trend and its characteristics intimately in order that it may "cooperate with the inevitable" instead of running the strong possibility of being thrown for a loss by it.

Added to the growth of villages and other non-farm rural population for at least two decades; the increase in part-time farming, and the definite and apparently permanent trend of suburban settlements are the well-known incapacity of great cities to reproduce their own population quotas and the strong probability that the day of increasing concentration of industry and expanding hours of factory work has come to an end. These trends present sufficient evidence to lead many to believe that some other alternative must be found to solve our population debacle than to follow either those who want to solve the farm problem by shoving millions more people into urban centers or those who want to solve the city unemployment and relief problem by shoving a million urban families into agriculture. Subsistence homesteading, no matter how much we dislike the term, and no matter what its social implications of simpler and less commercialized forms of existence, has the opportunity to forestall the head-on collision of rural-to-urban and urban-to-rural migration, and to set the pattern by which a new type of semi-rural, semi-urban living may be developed on a comparatively large scale in this country.

No one surely believes that all great cities will demobilize their heavy industries and their complete populations, or that commercialized and mechanized farming will be abandoned. It would be just as foolish, however, to believe that neither of these great national economic set-ups—completely commercialized agriculture and concentrated mass industrial operation—will be influenced by this third great segment in our social and economic set-up. We will by necessity have to open both our eyes and our minds in preparation for the day when all American life will borrow more from European patterns and plan its future by known and predictable trends than it does from our own past experience.

Who Should Move to Suburban and Village Homesteads?

The time may come when we can dictate who shall live where, who shall move and who shall stay at various places, but not unless we arrive at a time when far more than fifteen million of

our wage earners and entrepreneurs have fallen into the estate of doles. So again we will have "to cooperate with the inevitable," do some planning, some zoning and maybe some stimulating, toward the end that we may offer intelligent guidance to migrations. In the recent past there have apparently been four classes of families who have made up the tide of suburban areas: the rich who wanted palatial homes and ample grounds, the white-collared gardeners, the thrifty low-wage workers, and the truck and poultry farmers. Into the villages have come chiefly the aged, those on their way to the cities, and the necessary work force to man small and decentralized industries.

We should probably not be fooled by recent movements which seem to multiply the types which have swollen these suburban and village tides. Neither should we overlook the growing prevalence of cheap transmissible power and light, the growth of rapid means of transportation and the multiplication of radios and good movies and talkies, all of which are as definitely centripetal in their influences as water power and water transportation were at one time centrifugal in their influence. Nor can we with any calmness or intelligence expect forever to continue to develop a civilization on the sole ideals of expansion and exploitation. However sentimental it may sound, we must and will develop other values and zests, those which fit better with increased leisure, developing art, and richer community living. If subsistence homesteading does not offer guidance in this direction it will lose its body, viz: its investments in land and houses, because it failed to save its soul, viz: a richer and more satisfying social life.

In short the issue of who will move into suburban and village homesteads and stay there once the economic conditions change, is less in the hands of those who guide subsistence homesteading than is the issue of what kind of an economic and social set-up a subsistence homesteads community is to have. The great number who think they want to go into subsistence homesteading should be checked against the refusal of every single young man and woman in the student section of the American Country Life Association to say that he or she wanted to do subsistence homesteading.

Merely building low-cost houses is not the heart of the subsistence homesteads job. The life insurance of low-cost houses rests upon whether the homesteaders become successful subsistence gardeners, and the life or death of the subsistence homesteads community depends on who is selected as homesteaders

and what kind of social and cultural life is planted and nurtured in the communities. It is my guess that the best bet is to select homestead families from those classes who in the recent past have been moving suburbanward, plan the suburban garden communities far better than we have planned our cities, build low-cost modest houses, and above all else use every thing we know about successful gardening and community organization to help them toward successful and happy living. Once this is successfully accomplished and accomplished at the same time we are being compelled to give up our pioneer agricultural and industrial mania of expansion and exploitation, to those classes who have drifted suburbanward in the past may gradually be added others to whom this new pattern of life is an answer to their quest for economic security and social contentment.

Who Should Set Up Subsistence Homesteads and How?

To raise the question, who should set up subsistence homesteads, may seem to some idle if not foolish, because everybody from construction engineer to social worker and from city subdivider to single-taxer will disagree each with all others in his answer. But I do not think the question is idle and I know it is not foolish, for the simple reason that there are apparently going to be hundreds of subsistence homesteads projects set up and thousands, probably tens of thousands, maybe hundreds of thousands, of families moved into homesteads communities within the next few years. As I have pointed out, they have been doing this very thing in great numbers for two or three decades. I think the question of what sorts and kinds of information and talents can be and should be mobilized for the task is a vital question, and I am going to give my answer.

An intelligent answer demands first of all a job analysis, a determination of just what a subsistence homestead is. In making this analysis I shall attempt to keep off of controversial ground by taking the common ground of those who answered my questionnaire, the statement of the law which created the Division of Subsistence Homesteads, and the most recent rulings of the Division itself.

Section 208 of the national industrial recovery act states that the object of subsistence homesteads is, "to provide for aiding the redistribution of the overbalance of population in industrial centers—"; those who answered my questionnaire you will remember agreed fairly well that the first objective of the subsistence homesteads program should be "to supply subsistence in-

comes to industrial workers," and I understand that the most recent rulings of the Division of Subsistence Homesteads are to the effect that open country colonization is not what is meant by subsistence homesteading. The vast majority of homestead projects thus far started or approved are to be about the periphery of cities or at points of decentralized industry. I am not therefore merely pronouncing my own opinion when I say that the objective of the subsistence homesteads program is to build communities or neighborhoods in the penumbrae of industrial centers, supply homes and gardens to those selected to become residents in these communities and select homesteaders who will receive their cash incomes from non-farming occupations and as much as possible of their subsistence income from home-produced supplies. If this is a correct statement of the job to be done then it is apparent that the following items at least demand consideration and judgment: (1) The selection of the sites, (2) the planning of the physical lay-out—streets, public services, house sites, gardens and commons, if there are to be commons, (3) the planning and building of residences and out-buildings, (4) the selection of homesteaders from wage or salary earning groups who are able to liquidate their homestead loans, and (5) the training of homesteaders to be successful gardeners, canners and preservers in order that they may be successful in supplementing their cash income by home-produced supplies.

I have named the activities in the chronological order of planning, constructing and setting into operation a subsistence homestead community and not necessarily in the order of their importance. Neither do I mean to imply that a subsistence homestead can be successfully built like a pile of stones, by laying the first stone down and then adding others as necessity or convenience dictates. Building communities is something more than merely building houses in relative juxtaposition and setting up subsistence homesteads is something more than moving a number of families into the houses after they are built. All five of the things just mentioned must be kept under consideration as each specific thing is done. If therefore an independent authority such as the TVA—as suggested by one answer to my questionnaire—were to be set up to guide and direct the subsistence homesteads program it should be a commission of five members: one a city planner, one a construction engineer, one a garden expert, one a home economist, and one a sociologist. The contribution of no member of the Authority should be assumed to be greater than the other, and the opinions of all, plus the assistance of such

experts as architects, soils specialists, and social case workers, should go into the decisions which determine the location, lay-out, construction and initial operation of every homesteads community. I think, however, there is justification in the assumption that the sociologist, garden expert and home economist will be able to make contributions superior to all others when it comes to determining the crucial issues. There is, for instance, as much if not more, argument in favor of selecting the homesteaders before construction begins than there is in favor of delaying the selection until later, and the sociologist and home economist are likely to be the only ones who will insist on this. The city planner and construction engineer are likely to feel that physical lay-out and building houses should receive major consideration if they are allowed to absorb all the time and attention during the early stages of planning and development. If homesteaders are selected in advance, however, many members of homestead families can be given employment during the period of construction, many of them can get advanced training in gardening, here and there the house and garden lay-out can be altered to suit individual tastes, house and homestead space, if not style, can be somewhat built to fit family needs instead of families selected to fit houses and gardens, and above all else, those who are to constitute the community instead of being just so many tenants in a set of new houses are automatically part and parcel of the community when it is completed.

Since my division of labor on this program is to discuss the social phases of subsistence homesteading, I suppose I may be excused for laying special emphasis on the contribution which the sociologist can make to the program. But let me again call your attention to the fact that the whole justification of the subsistence homesteads program is that it is needed to furnish intelligent guidance to a population movement. Some sociologists at least are students of population. They have knowledge not only of vital statistics but of both mass and selective population migration. Such knowledge is of prime importance in locating homesteads and selecting homesteaders. Some sociologists have knowledge of family case analysis techniques, and it is my idea that such knowledge is of utmost importance in selecting homestead families. Some of them have attempted to be community organization experts and have not only worked with many living communities but have studied community social structure and functioning from many angles. They know that "Arthurdale" and "Houston Gardens" were not the first two planned and con-

structed communities set up in America, much less the first ever set up in the world. They know something about the trials, errors and successes at Zoar, Brookfarm, Oneida, New Harmony, Icaria, Amana, Fairhope, and Llano;[6] they know something about the elaborate farm village experience of the Mormons;[7] and they are attempting to keep abreast the Seiderling movement in Germany,[8] and Mussolini's program in Italy. Above all they believe that the knowledge of these experiments and of the experience of the thousands of what might be called "Topsy communities" which have sprung up on the periphery of American cities and towns, have real contributions to make to the planning, construction and operation of subsistence homesteads communities.

Conclusions

In conclusion let me say that the whole subsistence homesteads program and large segments of the rural rehabilitation program as well, constitute a giant experiment in social engineering. These national projects are in a way an attempt to discover the carrying capacity of different localities, as the geography and soil resources of these localities relate themselves to the whole industrial and commercial fabric of our economic life and the social fabric of modern culture. These programs are or should be based upon a conviction that the proper orientation of population to natural resources and modern technologies of production and communication and the wise organization of communities, if they cannot guarantee the standards of living promised by the technocrats can do much to increase security and stabilize economic and social life, and probably point the way to a more or less new pattern of life for thousands of American families who never did and who have no chance in the future to participate in economic gains of expansive, exploitative and gambling business enterprises, but who cherish the hope of owning a modest house and long for some degree of security. I suppose we will all grant that such giant undertakings are both difficult and precarious and probably most of us are convinced that they will do more harm than good unless they are guided by the best knowledge available, and handled with an understanding that American families

---

[6] Probably the most ready sources for a general survey of the story of these communities are: Douglas, D. W. and Lumpkin, K. D. P., Communistic Settlements, in Encyclopedia of Social Sources, Vol. IV, pp. 95-102; Hines, W., American Communities and Cooperative Societies; and Nordhoff, C., The Communistic Societies of the United States.

[7] Gardner, H., "Communism Among the Mormons" in *Quarterly Journal of Economics*, Vol. 37, pp. 134-74. Nelson, L., "A Social Survey of Escalante, Utah," Brigham Young University Studies. No. 1. Provo.

[8] Loomis, C. P., Manuscripts on "The Recent German Settlement Movement" to be published by The Division of Population and Rural Life of the Bureau of Agricultural Economics, U.S.D.A.

who will make a success of homesteading can not be handled as guinea pigs and that communities that rise above the level of coal towns and army camps can not be built from Washington; that homesteaders must be selected from among those who sincerely desire to live in villages or garden communities, and that these new communities must be part and parcel of the larger local communities to which they belong, which larger communities wanted them, helped plan and construct them and will in the future keep them under their wings because they are a natural part of their lives.

NOTES

(*Editorial Note:* Dr. H. B. Price, Agricultural Experiment Station, Lexington, Kentucky, is the associate editor in charge of the Notes. Manuscripts for this section of the JOURNAL should be addressed to him.)

PROBLEMS OF CREAMERY OPERATING EFFICIENCY IN CALIFORNIA

Studies of plant operating efficiency nearly always present many difficult accounting and statistical problems. These difficulties are intensified in studying creamery operating efficiency in California. During the past few years California has produced between 72 and 75 million pounds of creamery butter annually. This is about 4.5 per cent of the creamery butter produced in the United States and equivalent to about one-fourth of the amount produced in Minnesota, the most important butter-producing state in the Union. A distinctive feature of butter creameries in California is the large volume of output per creamery and the diversity of products handled. Over 75 per cent of all butter made in the state is made in thirty-seven creameries. In addition to the manufacture of butter, nearly all creameries produce one or more by-products or handle side-line enterprises. By-products produced are skim-milk powder, casein, and dry buttermilk. A few creameries also raise hogs, make ice cream, cottage cheese, and cheese. One of the largest creameries also manufactures large quantities of evaporated milk annually and another middle-sized creamery operates a retail store and garage.

Most of the creameries in the state were planned originally to receive cream from patrons. For a number of reasons they gradually changed their operations from a gathered-cream to a gathered-whole-milk basis. At present only a few of the smaller creameries, mostly in mountainous areas and in the two largest cities, receive their butterfat in the form of cream. There are indications that even these creameries may eventually be forced to consolidate and convert their operations to a whole-milk basis. The medium and large creameries receive the bulk of their butterfat in the form of whole milk although some cream is still received from outlying districts. Along with this transition many of the creameries have grown to many times their originally planned size, for in addition to the handling of by-products and side lines, they have greatly expanded their volume of output. Great emphasis seems to have been placed on large volume by some creameries in the belief that unit costs would continue to decline almost indefinitely with increase in volume.

These developments have brought into prominence many difficult problems of internal plant operation and cost accounting procedure as well as problems of more general interest to the dairy industry in California. These problems, while they have existed for a good many years, were given only casual consideration prior to 1929 because the generally high level of prices of butter and other dairy products provided a satisfactory level of return on invested capital. Since 1929, however, the general financial stringency and the very rapid decline in prices of dairy products forced creamery operators to give more consideration to problems of plant organization and operation. The College of Agriculture of the University of California undertook in 1931 to make a study of the factors influencing

creamery operating efficiency and especially of the problems arising from main and by-product interrelationships. It was decided to restrict the study to creameries deriving at least 75 per cent of their gross operating income from the sale of butter. The records of many creameries were in such poor shape, however, that they could not be included in the study.

Records, complete in some respects and incomplete in others, were obtained from twenty creameries representing all of the more important butter-producing areas of the state. The average output of butter for these creameries in 1931 was 1,987,000 pounds, production ranging from 500,000 pounds to just over 7,000,000 pounds. Five of the creameries had an output of less than 1,000,000 pounds annually, ten between 1,000,000 and 2,000,000 pounds, two between 2,000,000 and 2,500,000, one about 4,000,000 pounds, and two between 6,500,000 and 7,200,000 pounds. There were thus important gaps. No creameries were available with volumes between 2,500,000 and 4,000,000 pounds and none between 4,000,000 and 6,500,000.

Another complicating factor was the multiplicity of accounting practices prevailing and the inadequate records of many creameries with respect to physical factors such as volume of raw product used in the different by-product enterprises. Several different methods of allocating costs between the main product, butter, and the by-products, casein, skim-milk powder, and dry buttermilk, were found to exist. A few creameries made no attempt at all to allocate costs between functions and products. In one creamery cost-allocation methods were changed three times in one year in order to show a profit on skim-milk powder. There was a general tendency on the part of creamery accountants to regard the manufacture of each product as a separate and distinct enterprise which had to stand on its own merits, whereas in reality each creamery was a complete operating unit, the various activities complementing and supplementing each other in the use of labor, power, and plant facilities.

For the purpose of this study it was decided to use what may be termed the additional cost method of allocating expenses between the main product and by-products. Under this method butter, the main enterprise, was charged with all expenses which would be incurred if butter only were handled and the by-products with only such additional expenses as were directly attributable to their handling. The difference between the additional expenses of manufacturing each by-product and the returns from the sale of such by-product was regarded as an addition to the net revenue of the creamery as a complete economic unit. This method of cost allocation is justified because the manufacture of butter is the main economic activity. Skim milk and buttermilk are residual products from the manufacture of butter and their processing into various powdered forms makes them by-products. This method of cost allocation is justified furthermore because most creameries were originally organized to manufacture butter only and in deciding whether or not to receive whole milk instead of cream and to manufacture by-products, creamery operators made calculations similar to those implied in the additional cost method. In other words, they estimated the additional cost of manufacturing the by-product and the additional revenue from its sale.

The first part of this study dealing with utilization of labor, the most important item of expense in operating creameries in California, has re-

cently been completed.[1] This study shows that volume is one of the most important factors influencing hours of labor and labor costs per unit of output. Total labor costs per 1,000 pounds of butter manufactured, excluding hauling, cutting and wrapping, and local selling costs range from $7.45 to $17.55. Costs declined rapidly as volume increased from 500,000 pounds to 1,500,000, and somewhat less rapidly from 1,500,000 to 2,500,000 pounds. The costs of the creamery with volume around 4,000,000 are somewhat higher than those of the creameries in the 2,000,000 to 2,500,000 pound range and those of the two creameries with an output of over 6,500,000 are somewhat higher than that of the creamery with an output of 4,000,000 pounds. The fact that only three creameries with volumes in excess of 2,500,000 pounds of butter annually were included in the study makes it difficult to ascertain with any degree of exactness the optimum or most efficient size of plant. This would appear to come somewhere between 2,500,000 and 4,000,000 pounds. The general slope of the curve of total costs and also the slopes of the curves of costs of individual functions such as management, office, receiving, pasteurizing and churning, would indicate that the optimum size with regard to utilization of labor would be around 3,500,000 pounds.

Three other factors that have an important bearing on hours of labor and labor costs per unit are the seasonal variation of output, type of business organization, and level of wages paid. Creameries located in coastal counties have a very marked seasonal variation of output, whereas creameries located in the interior valleys have a remarkably uniform seasonal output. As a result, seasonal labor costs fluctuate much more violently for creameries in the coastal regions than for those in the interior valleys. Four creameries, which were branches of a line company, had office labor costs considerably higher than those of other creameries with comparable volume. Each of the branches of the line creamery maintained elaborate accounting systems. Much of the information kept was for use of the head office, which should probably bear a part at least of these costs. Management costs per unit of the smaller creameries appear to be much higher than for the medium-sized and large creameries. A certain minimum salary has to be paid for a competent manager and as a consequence management costs per unit increase with decrease of output per creamery.

The data collected in the study disclosed no definite relations between volume of output of by-products and labor costs per unit. This does not imply that volume had no influence on costs, but that the data were inadequate for purposes of tracing such a relationship. In the first place, there were too few creameries producing any one by-product. Only seven creameries manufactured casein, only six skim-milk powder, and four fed skim milk and buttermilk to hogs. In the second place, several different types of machinery were employed, especially in manufacturing skim-milk powder. Some types of machinery required less labor per unit than others, but perhaps had heavier fuel and upkeep costs. There were too few creameries to attempt any breakdown of data on by-product costs by types of machinery used.

This analysis brings up several important questions of particular in-

[1] Tinley, J. M., F. H. Abbott, O. M. Reed, and J. B. Schneider. Creamery operating efficiency in California. California Agr. Exp. Sta. Mimeo. report 41. 1935.

terest to California dairy interests. There is reason to believe that there has been too great an emphasis on size in the past. It is generally assumed that a large volume permits the installation of efficient machinery which tends to reduce labor costs. This study, however, indicates that the three largest creameries had somewhat higher labor costs than medium-sized creameries. It is necessary to remember, however, that the larger creameries, originally planned to receive cream only and to produce a much smaller volume of butter than they now do, are congested and poorly organized and have some equipment which is inefficient in the light of their present volume. It is quite conceivable that if the larger plants had been entirely replanned and constructed, labor costs per unit would have continued to decline beyond an output of 4,000,000 pounds annually. As it is, the expansion of volume of output of the larger creameries beyond the point of optimum efficiency would seem to have prevented other creameries operating in the same territory from expanding to optimum efficiency. A downward adjustment in the volume of output of the three largest creameries and a corresponding increase in the volume of the smaller creameries appears advisable from an industry viewpoint.

Another part of this study on creamery operating efficiency on which work is still in progress will attempt to analyze the extent to which the combined capacity of all plants operating in the same territory is adjusted to present and potential supplies of raw materials available, the reasons for the expansion of capacity, either in the form of new plants or in the installation of additional or larger capacity machinery, and the effect of such expansion upon unit operating costs, returns on invested capital, and payments to patrons. An attempt will also be made to analyze in detail for a limited area the extent of overlapping of hauling routes, the effect thereof upon hauling costs, and finally the possible economies from a centralized hauling system. Finally all types of operating costs will be analyzed with a view to ascertaining the effect upon costs and operating profits or returns to patrons of producing several products in one economic unit under main and by-product relations.

The complete study thus aims not only at analyzing problems of internal plant organization and efficiency but also at exploring problems of external or industry efficiency. This latter problem, while it has received much attention in Europe under the name of rationalization, has not received much attention in this country, in spite of the rather widespread belief that one of the contributing factors to business depressions is the tendency for individual industries to become overbuilt.

J. M. Tinley

University of California

SOME FACTORS AFFECTING BUTTER CONSUMPTION

Extremely low prices for dairy products in the past have called attention to the need for more adequate information on factors affecting consumption and prices of dairy products. The dairy industry has grown more rapidly than population. If this growth relationship continues, the per capita consumption of butter and other dairy products must be increased markedly.

A better understanding of the interaction of the factors affecting per

capita consumption should bring a better relation between production, consumption, and price of dairy products. A study of the factors affecting the consumption of butter will not answer or explain all the problems of the dairy industry. Furthermore, a single study may not be exhaustive but the results may be of value and in turn lead to further studies which will aid in solving market problems.

There have been relatively few research studies dealing specifically with butter consumption but there have been numerous investigations concerning the consumption of dairy products as a group. In general, writers have discussed per capita income, payrolls, employment, price of butter, quality of butter, the use of substitutes, nationality, habits and customs of people, and advertising. There is some difference of opinion as to the relative significance of these factors but the consensus seems to be that incomes, the price of butter, and the use of substitutes are the more important.

Method and Discussion

A study was made to isolate and measure the factors that are more important in affecting butter consumption in the United States. The retail price of butter, factory payrolls, cost of living, retail price, and per capita consumption of margarine were studied. The period 1920-1934 was selected because a complete series of monthly and annual data of the factors studied was available. After some preliminary studies of monthly data, a correlation study of annual data was made. The whole study was divided into three parts. In the first, graphic correlation studies of annual data were made using the method described by Bean.[1] Per capita consumption of butter was used as the dependent variable, the retail price of butter as the first independent variable, and the index of factory payrolls as the second independent variable. The retail price of margarine, cost of living index, and the consumption of margarine were used each in turn as a third independent variable. (Table 1.) The result of the correlation showed that the price of butter and payrolls were the most important factors affecting consumption and that about 80 per cent of the changes in butter consumption could be accounted for by these two factors. The other factors used as a third independent variable—the index of cost of living, retail margarine price, and margarine consumption—did not seem to explain the remaining deviations.

A formal method of multiple correlation was used to check the accuracy of the graphic correlation. The formal method gave a coefficient of +.89 and the graphic method a coefficient of +.91. The line of net regression showed that for the period 1920-1934 a change of 10 cents in butter price was accompanied by a change of $\pm$1.9 pounds in annual butter consumption and a change of 10 per cent in payrolls resulted in a change of $\pm$.7 pounds in butter consumption.

In the second part of the study, the retail butter prices were deflated by the Industrial Conference Board cost of living index and used as the first independent variable in place of actual price. Deflated prices did not show as high a correlation as did actual prices but the same general relationships were found to exist.

---

[1] Bean, Louis H., "A Simplified Method of Graphic Curvilinear Correlations," *Journal of the American Statistical Association*, 24, 386-97, December 1929.

The third part of the study was made to ascertain whether the high correlation found in the correlation studies was due to trends. All the data were corrected for a straight line trend and the actual data calculated in per cent of trend. A multiple correlation of these data showed a coefficient of only +.02. From this it would seem that a large part of the correlation in the first two studies was due to trend. It is likely, however, that the relationship of price and payrolls to consumption is more significant than the results show, since the relative change in consumption was small as compared to the changes in price and payrolls. It is believed that the trend is the result of, rather than the cause for, the existing re-

TABLE 1.—EFFECT OF RETAIL PRICES AND INDEX OF FACTORY PAYROLLS ON PER CAPITA CONSUMPTION OF BUTTER IN THE UNITED STATES

Year	Primary Factors			Deviations Readings from Line of Regression		Estimated consumption	Additional Factors Tested for Relationship		
	X_1 Per capita butter consumption	X_2 Retail price of butter	X_3 Index of factory payrolls[1]	Butter consumption residuals from A	Butter consumption residuals from C		Index of cost of living[2]	Retail price of margarine	Per capita margarine consumption
	pounds	*cents*						*cents*	*pounds*
1920	14.6	70	117	+2.00	−0.90	15.50	122	40	3.49
1921	15.8	52	76	−0.35	+0.35	15.45	103	30	2.58
1922	16.2	48	81	−0.75	−0.50	16.70	97	28	1.73
1923	16.9	55	103	+1.65	−0.03	16.93	100	28	1.85
1924	17.3	52	96	+1.15	+0.10	17.20	102	30	2.11
1925	17.0	55	101	+1.45	−0.05	17.05	104	30	1.87
1926	17.8	53	104	+1.85	+0.09	17.71	104	30	2.12
1927	17.5	56	102	+2.10	+0.50	17.00	102	28	2.17
1928	17.1	57	102	+1.95	+0.35	16.75	100	27	2.48
1929	17.3	55	109	+1.75	−0.45	17.75	100	27	2.75
1930	17.3	46	89	−0.05	−0.50	17.80	96	26	2.84
1931	18.0	35	68	−1.50	−0.08	18.01	88	20	2.26
1932	18.1	27	46	−3.00	+0.35	17.75	78	15	1.76
1933	18.2	27	49	−2.90	+0.20	18.00	75	13	1.75
1934	18.2(a)	32	62	−1.90	+0.05	18.15	81	14(a)	2.02

[1] Index of factory payrolls, oleomargarine consumption, and National Industrial Conference Board cost of living index from Survey of Current Business.

[2] Retail price of margarine from the U. S. Board of Labor Statistical Bulletin No. 495 and the U. S. Board of Labor Statistical "Retail Prices," January 1933 and current issues. All other data from the U.S.D.A. Yearbook and Handbook of Dairy Statistics.

(a) Estimated.

lationships. If this is true, the results of the first and second parts may be considered more reliable than the third.

Cost of living, as represented by the National Industrial Conference Board index, does not seem to affect butter consumption enough to be measurable. Higher living costs are usually accompanied by greater purchasing power and improved business.

There are many factors which affect butter consumption. It is known that nationality, changes in food habits of consumers, quality of butter, advertising, and other factors are significant but their effects are exceedingly difficult to measure.

General Conclusions

From this study it appears that the retail price of butter and consumer income as represented by the index of factory payrolls, are the most important factors affecting consumption.

The quantity of butter consumed varied directly with the payrolls when

butter prices were high, but when butter prices were extremely low, as during the depression years 1931-1934, per capita consumption of butter increased in spite of low payrolls. It is likely that people who ordinarily use substitutes all of the time and consider butter a luxury, became butter users during this period.

Actual prices showed higher correlation to butter consumption than did deflated prices. Butter consumption is fairly stable from year to year, but there is considerable seasonal variation in both consumption and price. Monthly data failed to show any appreciable lag in consumption when compared with monthly price changes.

When butter prices rise above a certain point, some of those who normally use butter shift to margarine. This increases the demand for margarine and its price increases. Oleomargarine does not compete directly with butter because of price differences, and if margarine were not available to those who cannot afford butter it is likely that many of them would use lard, vegetable oils or some other substitute.

Margarine consumption shows an inverse relationship to butter consumption. When butter prices rise, both margarine production and margarine consumption tend to increase; and when butter prices fall, margarine production and consumption decrease. From this it seems that consumption of margarine in the fall and winter months is a matter of price substitution. A change in the price spread between margarine and butter does not necessarily affect the use of either product, nor does the relative price of one as compared with the other seem to determine the point of substitution.

This and other studies indicate that an increase in per capita consumption of butter can be brought about by a low price of butter or by an augmented income to the low and middle income groups of people. When the price of butter is not too high, a uniform quality of product and advertising of the food value of butter may aid in increasing its use.

It will always be possible to get large quantities of butter consumed if farmers are willing to take the low price necessary to move large quantities of butter into retail channels. Large per capita consumption seems possible only after prices are lowered to a point where the consumers, at their current income levels, can afford to take the total quantities offered. Excessive butter production will result in higher levels of consumption and also in low prices.

John B. Roberts

Kansas Agricultural Experiment Station

THE DIRECT MARKETING CONTROVERSY[1]

Research frequently engenders rather than eliminates controversy, by disclosing facts which cast doubt on previously accepted concepts, and by fanning into flame smoldering differences of interpretation. Such a result seems to have been effected by two recent and widely cited research reports on direct to packer marketing of livestock, in which directly opposing conclusions have been reached. Professor Ashby, of the Illinois Agricultural Experiment Station, seems to conclude that the operation of local

[1] Contribution from the Department of Agricultural Economics, Missouri Agricultural Experiment Station. Journal Series No. 442.

livestock markets, or direct marketing, has tended "to weaken the general level of hog prices."[2] The Bureau of Agricultural Economics, on the other hand, finds that "direct marketing has not lowered the general level of hog prices, nor has it operated to reduce returns to producers."[3]

These conflicting findings of two responsible research agencies are of considerable importance from both a theoretical and practical standpoint, and the economist may well inquire into the reasons for the varying conclusions. Is the difference one of fact or interpretation?

Both of the reports are decidedly voluminous, contain much interesting and valuable information, and in many parts are in agreement. While there are differences with respect to facts, the principal difference seems to be in their interpretation. A principal reason for this difference in interpretation may be the many species of trees included in the forest under study. The respective investigators have been impressed by different trees, and hence have arrived at different conclusions regarding the general nature of the forest.

Recently, a layman who doubted the usefulness of price outlook reports asked, "But in view of the thousand and one different conditions which affect the price of hogs, how can you ever hope to focus all of these complicated relationships into one concrete picture, a price prediction?"

The answer to this question, of course, is that no price analyst attempts to gather up all of the thousands of loose ends and tie them into one knot. Most of these factors affecting hog prices remain more or less constant, or changes in them cancel out. Only a relative few major conditions remain to be taken into account in arriving at a fairly satisfactory conclusion regarding the probable future of hog prices. If the analyst attempted to take into account changes in the thousand and one minor factors affecting consumer demand for pork or market supplies of hogs, he would soon become lost in a morass of detail from which he would have the greatest difficulty in extricating a specific conclusion regarding hog prices.

It seems quite probable that the latter difficulty has been experienced by some research workers and others in dealing with the problem of direct marketing. So many separate trees have been introduced that it has been difficult to see the forest. In this note no attempt will be made to choose between the trees offered for inspection by the opposing researchers, and only the forest, of which these trees are individually inconsequential parts, will be considered.

If direct marketing is responsible for producers receiving less money for hogs than they would receive if all hogs were marketed through former channels, somebody must be getting the difference. The only two parties who might thus be benefiting are the middleman and the consumer.

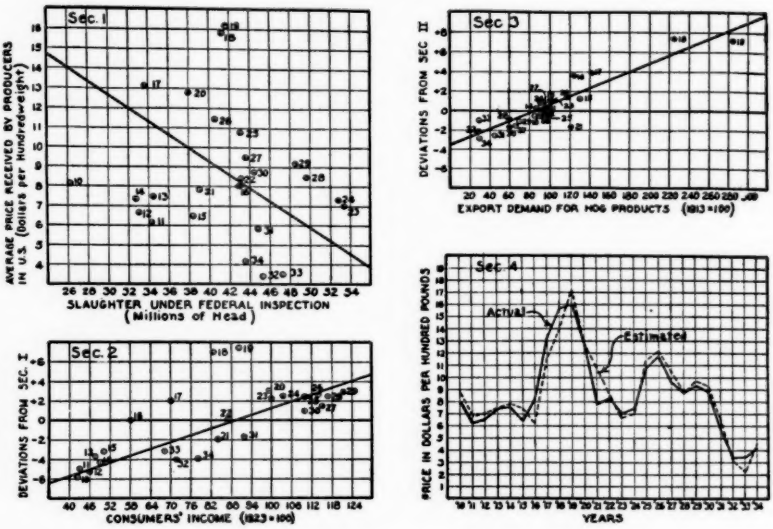
In the vast amount of detail presented in the Department's report, there is sandwiched some very convincing evidence that the packer or meat retailer did not receive the assumed difference between what the farmer has obtained for hogs and what it is assumed he would have obtained if direct marketing had not developed. The spread between the price of live hogs and the retail value of hog products did not increase during the period of rapid growth of direct marketing. The same is true of the spread

---

[2] Ashby, R. C., Local Livestock Marketing in Relation to Corn Belt Hog Marketing, Illinois Agr. Expt. Sta. Bul. 408, p. 601.

[3] The Direct Marketing of Hogs, U.S.D.A. Mscl. Pub. No. 222, p. 1.

between hog prices and wholesale value of hog products. These facts are shown in Chapter 7 of the Department's report. Agricultural economists also are familiar with the chart showing the spread between live hog values and the wholesale value and retail value of hog products which is contained in the hog outlook charts of the Bureau of Agricultural Economics for 1935, which shows these spreads by months from 1924 to 1934. Professor Young of Purdue University, and other investigators, also have presented evidence of similar implication.[4] It appears, therefore, that middlemen did not obtain the amount which farmers are supposed to have lost because of direct marketing.



Evidently used as the basis for conclusions contained in certain important sections of the Department's report, but not included therein (apparently because considered "too technical"), is a statistical analysis of the relation between hog prices and various supply and demand factors. Several analyses of this type have been made, it is understood, by various staff members of the Department of Agriculture, including Mr. Preston Richards of the Bureau of Agricultural Economics and Mr. O. V. Wells of the Agricultural Adjustment Administration. These various analyses, it is understood, all indicate that the major part of the annual fluctuations in hog prices during the post-war period beginning with 1921 or 1922 are accounted for by changes in hog slaughter, consumers' incomes, and export demand for hog products. The writer has made a number of graphic multiple correlation analyses of this type, with similar results.

More confidence may be placed in such analyses if a relatively large number of years are included. Data for years prior to 1922 are less than satisfactory, but other considerations possibly outweigh this difficulty. The accompanying chart shows that the annual fluctuations in hog prices from

[4] Young, E. C., Relation of the Wholesale Price of Pork to the Price of Hogs, JOURNAL OF FARM ECONOMICS, October 1931, p. 644.

1910 to 1934, inclusive, are accounted for largely by changes in the three supply and demand factors previously mentioned.[5]

It is distinctly significant that none of these analyses indicates any change, since the advent of direct marketing, in the price for hogs which is most likely to obtain with any given level of hog slaughter, consumers' incomes, and export demand. Hence, there is good reason to believe that consumers have not been obtaining benefit of the lower price which farmers are presumed to have received as a result of direct marketing. This conclusion is further substantiated by the charts contained in both the Department report (p. 123) and the bulletin by Mr. Ashby (p. 563), which indicate that the retail *value* of hog products consumed in the United States has moved very closely with changes in consumer incomes, and that no significant difference exists in these relationships prior to and after the advent of direct marketing.

If the farmer is losing money because of direct marketing, yet neither the middleman nor the consumer is gaining what it is claimed the farmer is losing, then who is getting it? This question is a poser for those who claim that the farmer is losing money because of direct marketing. Any amount of evidence regarding relative quality of hogs bought in the country and at public stockyards, freight rate differentials, and the like, will not answer it.

The latter comment should not be taken as a criticism of the factual evidence of this kind offered either by Mr. Ashby or the Department. Such facts are of value in dealing with specific problems which arise under direct marketing or any other system of marketing. They merely do not furnish the best and most direct approach to an answer to the question of whether or not direct marketing has adversely affected the hog price level. As shown above, it appears that no one is getting the price difference which the farmer is supposed to lose, because it is non-existent.

F. L. Thomsen

University of Missouri

SOME RECENT ECONOMIC TRENDS OF CONCERN TO MIDWEST COOPERATIVES[1]

Even a superficial contact with midwest cooperatives should impress one with the fact that they are confronted with a number of new problems which are likely to have an important influence upon their future destiny. Many of these problems have developed largely as a result of the operation of a number of external forces, some of which represent rather definite historical trends. Post-war economic disturbances have also created new problems and aggravated others. Moreover, cooperatives, like other forms of business organizations, have current internal problems of organization, management and finance. Weaknesses in policies regarding these problems are more likely to be revealed in times of stress or change.

Forces beyond the control of cooperatives exert considerable influence upon the extent to which midwest farmers are likely to cooperate in the

[5] The relation between estimated and actual prices for 1933 and 1934 involves a number of technical considerations that cannot be discussed here. For the purposes of this Note, the years 1933 and 1934 may be disregarded.

[1] Journal paper No. J-286 of the Iowa Agricultural Experiment Station, Ames, Iowa. Projects No. 335A and 306.

future and upon the character of this cooperation. What the net effect of the operation of these forces will be depends upon how promptly and how well their significance is recognized and interpreted, and upon how aggressively action is taken in making necessary adaptations.

An exhaustive economic interpretation of these trends and their probable effect upon the general character of cooperation in the future cannot be undertaken in these brief comments. However, some of the trends which seem of particular importance will be discussed, the emphasis being placed mainly upon their probable effect on important member relationships of cooperatives. The determination of the character of the relationships established by a cooperative with its members is a matter which is entirely under the control of the organization, and since member relationships represent one of the important aspects with reference to which cooperatives must adapt themselves to their economic environment, the necessity of establishing such relationships on the most effective basis possible cannot be over-emphasized. As pointed out in Bulletin No. 321 of the Iowa Agricultural Experiment Station, referred to below, many difficulties have arisen because these relationships had not been worked out satisfactorily in the past.

These comments are based to some extent upon general observation, but mainly upon impressions gained from recent surveys of farmers' elevators and creameries in Iowa.[2]

The Changing Need for Cooperation

In the first place, we shall have to recognize that the need, and perhaps the opportunity, for cooperation is changing. For example, as grain producers feed more and more of the grain they produce, they are likely to feel less need for a farmers' elevator. In one Iowa county, grain shipments decreased two and one-half million bushels between 1916 and 1931. Eight farmers' elevators have ceased to operate in this county, and some of those still in operation find it difficult to hold the interest of farmers. The tendency apparent until 1920 or 1921 for grain production in Iowa to increase has since shown a tendency to reverse itself; the areas of surplus grain production are becoming more and more localized.

But even the farmer who still produces grain for sale is in a better position to receive full market price for his grain today than he was 30 or 40 years ago. The same probably is also true of the farmer who sells butterfat or livestock. Improved market information, federal standards and grades, and improved means of communication all play their part in improving the position of the farmer as a seller of his products. Even though the *opportunity* for farmers to continue to improve the results of their marketing efforts is still present, the "dire necessity" which has always been regarded as one of the important essentials for success in cooperation, is undoubtedly less dire.

Another factor which has an important influence upon the urgency of the need for cooperation, is the fact that markets are coming closer to the farmer. Packing plants and packer buying stations now dot the Iowa landscape. Cereal mills consuming large volumes of Iowa grain are relatively near at hand. Moreover, meat and dairy producers in adjoining

[2] Bulletin No. 321, "Membership Problems and Relationships in Iowa Farmers' Elevators," has already been published; the results of the creamery survey will appear later in the year.

states, if not in nearby counties or in the immediate neighborhood, provide markets for large volumes of grain, much of which has in recent years moved direct from farm to farm.

If cooperatives under these circumstances are to continue to receive active support, they must find new ways of serving farmers. In any case, the old argument that the farmer needs to organize to "fight his enemies" has lost much of its former force and needs to be supplanted by a new argument to the effect that he can help himself by exploiting positive economies through cooperation. It is undoubtedly more difficult to arouse his emotions by this sort of argument. In view of the fact that the shift from the one to the other argument, represents a considerable change in the point of view, involving criteria of a different type, it is doubtful that the generation of farmers who pioneered in the cooperative movement will be able to make the shift. Moreover, the ranks of these pioneers are rapidly being depleted. Hence, the burden of developing a "positive" theory of cooperation and establishing a system of cooperatives designed to exploit the economies of "horizontal" as well as "vertical" integration of both buying and marketing functions, with the view to placing the agricultural industry in the strongest possible position with reference to its commercial contacts, rests upon the present and coming generations of farmers.

The emphasis in this new approach will be laid more on marketing functions, functional organization of purchasing and marketing processes, advantages of integration, relationship of supply to demand, maladjustments in geographical and seasonal distribution of products, and other important economic considerations, rather than upon excessive margins, monopoly and abuses in the trades, as in the past.

Moreover, the shift from selling grain to livestock feeding represents a shift to a more intensive type of farming ,which brings with it more emphasis upon purchasing of supplies. In fact, many of the organizations originally set up to market grain are now handling supplies almost exclusively, and practically all of them handle some supplies. These purchasing efforts in Iowa have thus far been limited mostly to cooperative retailing, except in the case of the more recent petroleum products cooperatives, which have integrated wholesale purchasing, and to some extent blending oils and other functions with retailing.

What the possible future development in this direction may be, depends largely on the extent to which purchasing and processing are integrated with retailing. The rather dismal history of cooperative stores in the Middlewest suggests that the amount of the retailers' margin that can be "saved" will in itself hardly support an extensive and permanent cooperative movement.

However, cooperative purchasing as well as selling characterized by a high degree of integration is already well developed among farmers in both the eastern and in the Pacific Coast states, and the future will likely witness further growth in this direction.

Improved Roads and Truck Transportation

Another important factor in the situation is the improvement of roads and the growth of truck transportation which has occurred since the War. These developments affect the basic structure of the local, or "assembling" part of the organization for marketing farm products. However, only cer-

tain implications from the point of view of the membership problem will be pointed out. Cooperatives had none too much assurance of patronage in the days of mud roads; today they have still less assurance. In recent years privately operated grain trucks have been scouring the countryside. Cream haulers of several farmers' creameries frequently cover the same routes.

Note only has competition been intensified, but cooperatives are now competing among themselves. Whereas the farmer might have been influenced by the old argument to patronize his cooperative organization rather than a private dealer, that argument does not apply when the "competitor" is another cooperative organization.

The effect of a cooperative competing with a private dealer is mainly to reduce excessively wide margins and to eliminate unfair practices, short weighing and other abuses. But when a number of cooperatives, which are presumed not to indulge in sharp practices, are competing among themselves, the struggle for survival is placed more definitely upon a basis of relative economic performance. Cooperatives will in the future be under greater pressure to exploit all economies possible.

The probable outcome of a competitive situation of this sort is that the stronger cooperatives will ultimately attract the available business and that the weaker ones will be forced out of business. Local pride and community spirit, often aided and abetted by chambers of commerce, however, are powerful forces opposing this tendency. Another factor tending to limit the size of a given organization is increasing transportation costs and failure of operating costs per unit to continue to decrease, as volume is increased beyond a given point.

Several organizations now have a larger volume of business than is necessary to minimize costs of operation, and some of them could operate at less cost per unit if their volume were considerably reduced. Moreover, there is a tendency for an organization to handle a decreasing proportion of the business of the territory covered as the trade territory increases beyond a given point. An instance may be cited of an organization which could double its volume of business by cutting its territory in half, provided it received all the business in the smaller territory. Obviously economic, as well as cooperative, principles of fundamental importance are being disregarded in communities where such a situation is permitted to develop.

It is, of course, important that no impediments be placed in the way of developing cooperative business units to such size as will permit them to maximize the returns to producers. To the extent that local pride militates against such a development, it is working against the best interests of producers. On the other hand, when the management of a given organization becomes overly "volume conscious," as many of them are, they may likewise fail to promote the best interests of producers.

Another important result which is likely to follow as cooperatives shift from competition with private dealers to competition among themselves is that farmers' organizations will be forced to become cooperative in fact rather than in name only. When the organizations shall have reached the point where they are on an equal basis with reference to economies of operation, then one will have a competitive advantage over another only with reference to the extent to which it makes the patron the sole bene-

ficiary of its operations. A number of organizations have recently changed to a more thoroughgoing cooperative basis only because neighboring organizations have done so. Are we approaching the day when farmers' organizations will vie with each other to see which can come nearest to being 100 per cent cooperative?

Observation of the manner in which this situation is working itself out warrants the further conclusions that, (1) producers as such frequently do not control the policies of the organization sufficiently to keep their operations within the limits that will maximize the returns to farmers; (2) the patronage relationship is obviously unsatisfactory when an organization receives only a small part of the business of its territory in the face of the fact that it has no local competition.

The trend toward large scale local units as a result of improving the roads is bringing with it other problems that are new to the Middlewest.

Loss of Contact With Members

An organization whose membership is concentrated in an area of 75 to 100 square smiles has a simple problem of contacting its members as compared with an organization whose membership is scattered over an area of 2,500 square miles or more. One organization has 900 patrons scattered over 3,300 square miles—2.8 members per 10 square miles. In such cases, the only contact most of the members have with the organization is through the truck driver, who at best is a weak medium through which to develop a virile cooperative philosophy among producers. Considering the difficulties involved in maintaining a satisfactory morale among members when frequent personal contacts are possible, one can readily imagine the difficulties involved where practically no effective personal contact is possible.

Control

If the organization is unable to keep its members informed, and if they are conscious of the existence of the organization only through their contact with the truck driver, they are obviously unable to participate intelligently, if at all, in controlling the organization. As a practical matter, such an organization is almost as effectually separated from its members as is the large modern corporation from its stockholders. Is a cooperative under such circumstances likely to be any more responsive to the members than the modern corporation is to its stockholders? Although a few individuals may not easily acquire a controlling financial interest in a cooperative, especially of a non-stock cooperative, the fact that a select few may still dominate the affairs of the cooperative has been amply demonstrated. In the case of organizations covering a large territory, the producer, instead of being a vital factor in initiating plans designed to bring about more economical disposal of his products, is likely to become a passive and inarticulate element in the situation.

This problem of maintaining adequate contact with members when they are scattered over a large territory is not a new problem in many parts of the country, nor has it been entirely solved anywhere. But it is a new problem in the Middlewest, and will become more important as the local community organizations of the mud roads era give way to larger cooperatives in response to improved roads and truck transportation.

Increasing Tenancy

Practically all of the original members of the older cooperative organizations were land owners. This is not surprising, inasmuch as a large proportion of the operators at that time were land owners, who, because of the greater permanency of their residence in the community, were more likely to become interested in community affairs. Moreover, it is among them that most of the agricultural leadership, as well as the cash needed to finance cooperatives, was to be found.

Maintaining strong cooperative organizations which really represent agricultural producers when 50 to 80 per cent of them are tenants, presents problems not encountered 30 or 40 years ago. The organization and financial structure of most of the stock cooperatives are not adapted to a rapid turnover of members. Moreover, devices are needed which will facilitate the active participation of tenants, in spite of the fact that their tenure in the community may be uncertain. Most of them are not likely to make large permanent investments in a community organization, and on the other hand they are likely to demand direct and immediate benefits.

Although the percentage of tenancy is not as high among dairy farmers as among grain farmers, the creameries have rather generally had a more active participation on the part of tenants. However, in the case of two non-stock farmers' elevators, tenants represent well over 60 per cent of the total membership, and in a number of stock organizations the proportion of tenants ranges from 25 to over 50 per cent. These and other similar cases at least demonstrate that it is possible to make adaptations which will bring about the participation of tenants. At least two such adaptations will be mentioned:

1. Making membership easy to acquire, and
2. Terminating the membership of those who leave the community and refunding their capital investment.

Permitting prospective members to pay for stock or membership out of future patronage dividends or by levying assessments against the product to a large extent meets the first requirement, and the second is a matter of policy plus a source of funds for liquidating the financial interests of withdrawing members.

The tenant, however, presents another problem. Because his residence is less permanent he is less likely to be interested in local farm business organizations, and is, therefore, less likely to have strong convictions regarding the need and benefits of cooperative organizations. Hence, much more emphasis will have to be placed on eduactional work in the future.

Another aspect of this situation, which affects landowners as well as tenants, is the depression, which has depleted the financial resources of both types of operators. Many farmers, in need of ready cash, have been impelled to withdraw their capital wherever they could, and in many cases the capital invested in a cooperative was the most accessible. Several organizations have weakened their financial position by buying in large proportions of their outstanding stock. Any device which aids tenants in acquiring membership should prove equally advantageous in the case of landowners.

Any plan designed to facilitate a rapid turnover of members must, however, be accompanied by a plan which will also revolve the capital. The membership capital in stock organizations in Iowa has shown little tend-

ency to revolve; even a considerable proportion of the non-stock organizations do not revolve their capital. Some stock organizations are now experimenting with a rovolving fund created out of patronage dividends, payment of which has been deferred.

The problem of financing cooperatives in the face of depleted financial resources among farmers is a more serious one. On the other hand, creamery organizations have demonstrated how the product itself may provide the basis for financing the organization. Although creameries using this method have not used the producers' contract, the collateral note which the member gave was in many cases payable in cash if the deductions per unit of product delivered by the member did not liquidate the note. In such cases the collateral tended to obligate the member to patronize his organization. The farmers' elevators, however, present a different problem in this respect. A plan is now being experimented with which may prove to be effective in some cases. It seems, however, that members will be forced to assume more definite obligations, not only to finance but to patronize in the future than in the past. If cooperatives are to be financed by deductions per unit of future business, or out of future earnings or savings, then the financial structure is likely to be sound only if the prospective member assumes definite obligations to patronize the organization.

The Passing of the Cooperative Pioneers

Because of a general lack of provisions for revolving the membership as well as the membership capital, most of the stock organizations that are over 15 to 20 years old are now confronted with the problem of rehabilitating their membership. Much stock is tied up in estates of deceased members, and many of those who have moved away or retired still retain their stock. Meantime little recruiting of new members has been done. A number of factors have contributed to this situation. A few of them are:

1. The stock form of organization as commonly used does not facilitate or provide for a current turnover of members or capital.
2. The prevailing type of cooperative philosophy, which was too often merely a modified form of capitalistic philosophy.
3. The economic disturbances of the past 15 years.
4. Legal difficulties, and inadequacies of the stock cooperative law.
5. Neglect on the part of directors and officers of cooperatives to carry out the cooperative provisions of articles and by-laws.
6. Financial difficulties of cooperatives, "watered" stock, excessive valuation of assets, and other reasons, which render the stock an unsatisfactory investment.

These and other reasons for the situation as it exists among the farmers' elevators are discussed in Bulletin No. 321 referred to above. The result is that the proportion of non-member patrons has been increasing relative to the number of member patrons. Probably not half the farmers' elevators do over 50 per cent of their business with members. For individual companies the business done with members ranges from 10 to 100 per cent of the total business. In the case of farmers' creameries, a much larger proportion of the total business is done with members, mainly because over half of them are non-stock organizations. But even in this case many extreme situations exist. For example, one creamery with 108 members

has over 2,000 patrons. The member patrons of stock creameries equal 37 per cent of total patrons, as compared with 90 per cent for the non-stock creameries.

Under such circumstances, however good the intentions of the organization may be to operate for the benefit of patrons, the temptation of a limited number of stockholders to exploit non-member patrons is altogether too prevalent, and the frequency with which non-members complain suggests that the temptation is not always successfully resisted.

Transferring Cooperatives to New Generation

Because of the age of many organizations and the extent to which the membership has disintegrated, one of the problems of outstanding importance for the future of cooperatives in Iowa is to transfer a considerable percentage of the organizations from the generaton of farmers who originally organized them, to a new generation of farmers. Because provisions and policies designed to accomplish this were either absent or ineffectual in the past, a definite, conscious effort specifically designed to accompuish this purpose will now have to be made. This effort in most cases will have to be as deliberate as was the effort to organize at the outset.

The passing of the cooperative poineers raises another question. To what extent will the new generation take up the burden? The response made by the younger farmers in the case of many attempts to reorganize has been discouraging. What has become of the cooperative spirit and philosophy of a generation ago? A casual scanning of the rural press in recent years indicates how little cooperation enters into popular discussions. Cooperation no longer "rates the front page." Other matters seem to occupy the minds of the majority of farmers. Much as it may be regretted, it is probably a fact that as the old generation of cooperators passes out of the picture, much of the cooperative education which a half-century of cooperative building had developed will also be lost. Negative and inadequate as much of the cooperative philosophy of the past may have been, it provided the stimulus for a half century of cooperative achievement.

The extent to which the coming generation of farmers will take up the burden depends largely on the extent to which they become imbued with the economic and social significance of cooperation to agriculture. Because of the almost complete cessation of active educational work in cooperation on the part of farmers and farm organizations in recent years, perhaps much ground has been permanently lost, and such as is regained will be regained only at the expense of a tremendous educational effort.

Frank Robotka

Iowa State College

COMMENTS ON VIEWS OF THE ECONOMIC COMMITTEE OF THE LEAGUE OF NATIONS ON AGRICULTURAL PROTECTIONISM

The Economic Committee of the League of Nations has published a document on agricultural protectionism.[1] It is to be noted with surprise that the Agricultural Committee which was instituted by the League was not invited to give an opinion on the problem prior to the publication of the results of the investigation carried on by the Economic Committee.

[1] Geneva, No. C. 178.M.97. 1935 II.B.

The discussions were based rather on a note submitted by Sir Frederick Leith-Ross which was printed and published as a supplement to the comments made by the Economic Committee. Sir Frederick's opinion certainly contains valuable statistical compilations; in the conclusions, however, it reveals the one-sided standpoint of the Manchester school and lacks appreciation of the necessity of maintaining agriculture and peasantry. In many instances, also, conclusions drawn from the statistical figures are incorrect.

It is not true to say that the agricultural crisis must be blamed mainly on the increase in European production. It is the overseas countries above all which have extended their production, chiefly of wheat, in an unheard of manner. In the following, Sir Frederick's figures have been used. In 1925, the four main exporting countries produced 375,000,000 dz of wheat, in 1930 478,000,000 dz, and in 1928 as much as 542,000,000 dz, while the five-year average 1909-13 amounted only to 306,000,000 dz. It was only under the pressure of increasing stocks and declining prices that these countries started to cut down acreages. Crop failure temporarily reduced production, in 1934, to 316,000,000 dz.

The decline in wheat imports by European importing countries did not set in until 1931-32 (page 22 of the reports).

From Sir Frederick's compilations it is also evident that tariff protection for wheat was less extensive in 1922 than before the war (page 15), and that active tariff protection first set in after the year 1929 (page 18). Agricultural protectionism evidently was not the cause but a consequence of the agricultural crisis.

Neither is it correct to say that the better prices in the countries under tariff protection have prevented an increase in consumption. With regard to bread, this cannot be true because it is the experience in the old cultured countries that low grain prices and increasing income keep bread consumption on a low level. In such times people can afford to eat more livestock products, also vegetable fats, and moreover, larger quantities of sugar, chocolate, fruits and the like, while curtailing their use of bread and potatoes. Sir Frederick's statistics shows further that the consumption of livestock products has even increased in some instances, and declined slightly only with the increasing industrial crisis of the past few years, in spite of receding prices.

A few of Sir Frederick's figures (pages 23 and 24) will illustrate this statement.

ANNUAL BUTTER CONSUMPTION PER CAPITA (ENG. LBS.)

	1924/27	*1933*	*1934*
United Kingdom	15.4	23.5	
Germany	13.4(1925/27)	17.6	15.3
The Netherlands	12.5(1927)	16.6	

ANNUAL EGG CONSUMPTION PER CAPITA

	United Kingdom Number	*Germany Number*
1924	116	117
1932	150	120
1933	152	101

ANNUAL MEAT CONSUMPTION PER CAPITA (ENG. LBS.)

	1927	*1933*	
United Kingdom	138	145	
Germany	110	109	
France	70	72	
The Netherlands	41	39	(1932)
Italy	22	18	(1932)

Meat consumption shows no important changes; even where it has shrunk the decline appears insignificant. At any rate, it is incomprehensible how Sir Frederick can conclude from his figures that consumption in the European industrial countries has shrunk on account of too high prices. It is astonishing, on the contrary, that in the face of the industrial crisis the consumption of agricultural products is still so high. This shows that the prices of agricultural products in these countries are certainly not excessive in relation to the income of the non-agrarian populace.

If one judges Sir Frederick's figures correctly, one arrives at the result that the cause of the crisis cannot be looked for in agricultural protectionism but in the over-production of the overseas exporting countries. This over-production also caused severe damage to the former agricultural exports of the European industrial countries, especially of livestock products, and forced farmers in these countries to adjust to a basis of natural self-sufficiency. Protective tariffs and quotas alone have made this shift possible and saved the farmers concerned from complete ruin. The protective measures, therefore, are not the cause of the crisis, and their removal prior to restoration of world market prices would mean not an alleviation but rather a sharpening of the crisis—in the European countries, at least—without advantage to the overseas countries.

It is regrettable that the Economic Committee of the League of Nations neither recognized nor criticized these weak spots in Sir Frederick's statement, but affirms on the contrary that the note "arrives at objective conclusions of the greatest interest" (page 5). The Committee states that an exaggerated agricultural protectionism exists which prolongs the crisis rather than struggles against it. The Committee, however, fails to produce evidence for such a statement. Certainly there are individual exaggerations, but, generally speaking, the maintenance of the present protective measures must be regarded as a matter of vital importance to European agriculture. Even so, import requirements of the European importing countries from agrarian states will continue not inconsiderable.

In contrast to Sir Frederick, the Economic Committee has acknowledged the importance of maintaining the peasantry and rejects onesided free trade (pages 7 and 8). However, the statements made by the Economic Committee show strongly the influence exerted by Sir Frederick's opinion. They hardly touch upon the problem of the influence exerted on surplus production by the exporting countries. They almost give the impression that the Economic Committee is entirely ignorant of this chief cause of the European industrial crisis. Instead, it deals extensively with the extension of agricultural production in the importing countries, holding agricultural protectionism responsible for it. It claims that high prices have led European farmers to increase production, overlooking, however, that

the extension of European agricultural production has been relatively modest; often it has been only a shift from either rye to wheat, or from livestock to plant production, or from the production of cheese to that of butter, and so on. Weather conditions, causing a sequence of good crop years, also had a strong influence on the situation. In the main, however, the increase in production is the result of decades of peasant training and the promotion of agriculture by science and technique. Of special importance in this connection has been the improvement in plant and livestock breeding, together with the intensification in fertilizing and feeding. The influence exerted by these factors has little or nothing to do with the agricultural protectionism prevailing during the past few years. On the contrary, in many countries with tariff protection the use of artificial fertilizers and concentrated feeds has declined considerably, under the influence of the crisis, for want of operating capital and other reasons. If production increased nevertheless, this must be attributed to the improving training of the peasants—the fruit of decades of systematic effort on the part of the authorities, agricultural associations and individual farmers. Therefore, the statements of the Economic Committee made in Section V (page 10) are based on completely false premises.

The relations between agricultural protectionism and the position of the industrial worker are likewise over-estimated and inaccurately portrayed in Section V. Certainly there is over-production of some agricultural products in industrial countries. This is true especially in countries like Denmark and Holland where agriculture is carried on along industrial lines. They purchase the cheapest raw materials in the world, turn them into livestock products and then export these. Certain countries, as for instance Switzerland, make a specialty of producing quality goods like cheese, which can no longer be exported to the desired extent. The Committee, however, makes a mistake in attributing the price decline, which was later caused through lack of sales possibilities, to the decline in wages and to unemployment. It is the absence of export possibilities, on one side, and, on the other side, the often inadequate shifting to other branches of endeavor—in part because of insufficient protection, partly from other reasons—which must be blamed. The chief cause of the surplus in livestock products in Europe, however, lies in the large and increasing consumption of tropical and whale fats. If the European population could be made to substitute butter and lard for only one half or a fourth of these fats, there would be no surplus production of livestock products in Europe today. Europe would be in a position not only to extend livestock production and decrease the production of grain for market, but it would again, as before the War, utilize a greater share of its grain production for feeding purposes. This would, to a large extent, re-open the European market to grain exporting countries. The fat problem is of infinitely greater importance in the battle against over-production in Europe than the stimulation of consumption through the reduction of prices below costs of production of European agricultural products. Agriculture has often learned from experience that even a very detrimental reduction of domestic prices has not brought a proportionate stimulation of consumption. The consumers use the savings made through declining prices of agricultural products at times of low wages less for increasing the consumption of agricultural

products than to satisfy other requirements. Even the unemployed man in most countries can satisfy his hunger, but he often lacks entirely the means for other daily requirements, including entertainment and sports. Certainly we, too, hope that with increasing incomes consumption, especially of livestock products, will increase. But, a reduction in prices will achieve this only to a small degree, and only at the cost of the existence of the peasantry. The distress among the industrial population in industrial countries is due to a much less degree to high prices of agricultural products in the domestic market than to the decline in industrial sales to overseas agrarian countries as a result of the too low world market prices of agricultural products. It is far more important that overseas exporting countries obtain 50 per cent more per bushel of wheat rather than that their grain exports again increase by ten or twenty per cent at the expense of European agriculture. That would place them in a position again to purchase European industrial products. By no means is the development of prices of agricultural products responsible for the development of industry in Japan nor for the structural shift in world industrial economy. Thus the solution lies in an increase in world market prices, and not in a reduction of European domestic prices of agricultural products. Such increase can be achieved through restricting production in overseas countries and through contingenting exports. With increasing world market prices, it would also be possible to reduce agricultural protectionism in Europe. But, anyone who believes that the world agricultural crisis can be removed through pressure on European prices, coupled with a reduction in tariff rates and restriction of imports, and that Europe would wreck its own agriculture to make room for imports from overseas, is facing a great disappointment. Only in years of crop failure, or on the basis of heavier consumption or of certain exports of livestock products, will Europe grow less bread again, import more feed grains, and again purchase larger quantities of wheat. A revival of industrial exports must help in bringing this about. Inadequate industrial exportation is forcing Europe toward self-sufficiency in agricultural products to an increasing degree. Europe is willing, however, to pay overseas countries higher prices for wheat. The London Wheat Agreement forms a basis for this. In this Agreement, importing countries have also committed themselves to lower tariff protection as soon as wheat has reached a certain price on the world market. It is the fault of the wheat exporting countries, especially Argentina, that the Agreement has not attained its full effect and that now its most important clauses are even to be suspended. This will bar the way to the removal of European agricultural protectionism. It is striking that the Economic Committee of the League of Nations does not comment upon these important relations. These questions should have been placed first when the League of Nations dealt with the agricultural problem.

The statement must be made, unfortunately, that the report of the Economic Committee of the League of Nations on agricultural protectionism has been written without sufficient expert knowledge. Agricultural circles have repeatedly regretted that the League of Nations has to date been unable to bring itself to appointing representatives of agriculture as members of the Economic Committee. At any rate, the Committee would have done well to consult its designated Agricultural Committee prior to taking

a stand on these very important problems. We feel sure that with the opinion of agricultural experts as a basis important sections of the report would have undergone material changes. This publication of the League of Nations cannot be considered authoritative for the economic policy of the European industrial countries.

E. Laur

Swiss Peasants' Union

BOOKS RECEIVED

Black, John D., *The Dairy Industry and the AAA*. Washington: The Brookings Institution. 1935. XIV, 520 pp. $3.00.

Brewster, K., J. S. Y. Ivins and P. W. Phillips, *Taxation under the AAA*. New York: Baker, Voorhis & Co. 1934. XI, 341 pp.

Canadian Society of Agricultural Economics, *Proceedings of the Sixth Annual Meeting*. Mimeographed. 1934. 121 pp.

Cassady, Ralph and Harry J. Ostlund, *The Retail Distribution Structure of the Small City*. Minneapolis: The University of Minnesota Press. 1935. 107 pp. $1.00.

Economic Committee, League of Nations, *Considerations on the Present Evolution of Agricultural Protectionism*. Geneva: League of Nations. 1935. 49 pp.

Euler, Harrison L., *County Unification in Kansas*. New York: Bureau of Publications, Teachers College, Columbia University. 1935. 92 pp. $1.50.

Filipetti, George and Roland S. Vaile, *The Economic Effects of the NRA. A Regional Analysis*. Minneapolis: The University of Minnesota Press. 1935. 108 pp. $1.50.

FitzGerald, D. A., *Livestock under the AAA*. Washington: The Brookings Institution. 1935. XIII, 384 pp. $2.50.

Holtzclaw, Henry F., *The Principles of Marketing*. New York: Thomas Y. Crowell. 1935. 694 pp. $3.75. (Reviewed in this issue.)

Huggins, H. D., *Prices and Shipments of Agricultural Products in British Guiana*. British Guiana: Department of Agriculture. 1935. 31 pp.

International Institute of Agriculture, *The World Agricultural Situation in 1935-1934*. Rome: International Institute of Agriculture. 1935. VIII, 502 pp. 25 liras.

Kolb, J. H. and Edmund deS. Brunner, *A Study of Rural Society—Its Organization and Changes*. New York: Houghton, Mifflin Co. 1935. XIV, 642 pp. $3.50.

Myres, S. D., Editor, *The Cotton Crisis. Proceedings of the Second Conference, Institute of Public Affairs*. Dallas: Southern Methodist University. 1935. X, 202 pp. $1.00.

Moulton, Harold G., *Income and Economic Progress*. Washington: The Brookings Institution. 1935. XI, 191 pp. $2.00.

Rowe, Harold B., *Tobacco under the AAA*. Washington: The Brookings Institution. 1935. XIII, 317 pp. $2.50.

Schultz, Theodore W., *Vanishing Farm Markets and Our World Trade*. New York: World Peace Foundation. 1935. 41 pp. $.50.

Taylor, Alonzo E., *The New Deal and Foreign Trade*. New York: The Macmillan Company, 1935. XII, 301 pp. $3.00. (Reviewed in this issue.)

Wheat Studies, Vol. XII, No. 1. World Wheat Survey and Outlook September, 1935. Stanford University: Food Research Institute. 1935. 34 pp. $.50.

Willcox, O. W., *Nations Can Live at Home*. New York: W. W. Norton & Co. 1935. XI, 279 pp. $2.75.

BOOK REVIEWS

The New Deal and Foreign Trade, by Alonzo E. Taylor. New York: The Macmillan Company. 1935. Pp. XII, 301. $3.00.

This book presents a critical analysis of the foreign trade policy of the United States insofar as this policy has been outlined by Secretary Henry A. Wallace in the pamphlet, "America Must Choose." A brief summary of Secretary Wallace's pronouncements regarding the three paths—nationalism, internationalism, and the planned middle course—is presented following which the author suggests the scope of the book as follows: "This 'planned middle course,' the explicit proposals and the technical implications, the short term and long term objectives, the circumstances and influences which favor the plan and the political and institutional difficulties that oppose it, we propose to consider in what seems to us to be their order."

This is followed by a chapter on the "Hypotheses of Planned Adjustment of Supply to Demand" in which the author contends that the inability of agriculture to adjust supply to demand as compared with industry has been much overstated by many writers. The conclusion is reached that "the real difference lies less in the possibilities and instruments of adjustment than in the mental attitude toward adjustment," and further, "in the technique of relationship of production to distribution and sale lies the difference between agriculture and industry, more than in the inherent difficulties." Though one may agree that the differences between agriculture and industry have often been overstated, the question arises as to whether the author has not moved somewhat too far in the opposite direction.

In subsequent chapters, attention is called to the fact that reduced agricultural production in the most efficient areas, will encourage expansion in less efficient regions, and increase the overhead expense per acre, thus adversely affecting the prices of farm land. The effects on land use of the slowing down of population growth, and shift in the diet due to the changing age distribution and habits of the people, are also presented.

Following a careful analysis of visible and invisible foreign trade items the conclusion is reached that, contrary to the belief of many, the United States has had a passive (unfavorable) balance of trade since 1924. This is the natural reflection of our net-creditor position, but the balance has not been sufficiently large to service in full our enormous foreign loans and investments.

Possibilities of increasing the passive balance of trade are next explored. Theoretically, this could be accomplished by increasing the quantity of imports, by increasing the price of imports, by decreasing the quantity of exports, by decreasing the price of exports, by imports of gold, or by increasing payments for foreigners' services. But "raising the passive balance of merchandise trade is essentially the completion by the son of the bargain of his father" and the son is interested in present rather than previous transactions.

Special attention should be called to the chapter on "Bilateral Trade Treaties" in which the author offers strenuous objection to this method of attacking the foreign trade problem and insists that only by returning to multiangular trade and the strict observance of most-favored-nation treatment can the foreign trade of the world reach its highest state. The author further concludes that existing high tariff rates are a result rather than a

cause of the depression, and that the prerequisites to the restoration of foreign trade, in order of importance are "(a) restoration of monetary relations and exchange processes; (b) removal of various obstacles outside of tariff duties; and (c) lowering tariff rates, with maintenance of most-favored-nation treatment."

With respect to the practicability of the three plans—nationalism, internationalism and the planned middle course—the view is expressed that the latter, which appears to be the policy of the administration, would require somewhat less adjustments in agriculture and industry and would be technically somewhat simpler, "but the political difficulties would probably not be significantly less."

This reviewer is in full accord with the author's major conclusion that "despite the new popular views . . . the world will turn from planned and managed foreign trade to simple rules, lower tariffs, and most-favored-nation treatment. Here and abroad, imports and exports will again be determined by costs and qualities, by elasticities of supply and demand, not by selection of goods and services by political officials, elected or appointed."

"The New Deal and Foreign Trade" will not only provoke a lively discussion among those who support the New Deal, but among its opponents as well. It is a thoughtful analysis of one of our most pressing problems and should be read by all who are interested in world affairs.

A. A. Dowell

University of Minnesota, Northwest Experiment Station

The Formation of Capital, by Harold G. Moulton. Washington, D.C.: The Brookings Institution. 1935. Pp. xi, 207. $2.50.

It has been said of the two predecessors of this volume, *America's Capacity to Produce* and *America's Capacity to Consume,* that their broad titles were bound to disappoint the hopes of many readers. It is to be feared that this volume will likewise occasion disappointment. This, in itself, would not be a serious matter if, as in the case of the two preceding volumes, any disappointment that one might feel with respect to missed opportunities for analytical treatment could be assuaged by gratitude for the factual material presented, much of it either new or not easily accessible.

There is, however, comparatively little statistical material presented in the volume under review. The author specifically disclaims any intention of making "a quantitative study either of the accumulation of investments by the American people or the growth of the national supply of productive capital" (p. 5); and such references as are made to "the division of . . . income as between spending and saving" (e.g., pp. 3 ff.) are based upon the material already presented in *America's Capacity to Consume.* The chief interest of the book, therefore, lies in the analytical argument which it presents. As the author himself points out (p. 5), this argument is nothing more nor less than an "elaboration" and "development" of that which he published in a series of articles on "Commercial Banking and Capital Formation" in the *Journal of Political Economy* for 1918; and such statistical data as are presented are regarded as providing a "factual verification" of "some of the major issues involved" in that argument (p. 6).

The author goes out of his way, on more than one occasion, to emphasize the fact that his analysis and the conclusions to which it leads are "funda-

mentally at variance with traditional views on the subject" (pp. 5, 25, etc.). One might have hoped, therefore, since the volume, though written with a popular audience in mind, must have been intended to be read also by professional economists, would have contained, instead of loose references to what "economists" have said on the subject (cf., e.g., pp. 25, 37 ff.), specific references which would have demonstrated beyond question that the "traditional" position has in fact been what the author represents it as being. In Appendix A, to be sure, the author presents what is intended to be a critical examination of "other analyses of the savings process." The "other analyses" examined, however, are those of a motley crew, comprising writers as diverse in viewpoint and method as Hayek, B. M. Anderson, Durbin, J. A. Hobson, Foster and Catchings, Major Douglas, and Paul Douglas. These writers certainly do not make up, collectively, a group representative of the "traditional" position; and insofar as parts of their respective arguments are representative of this position, it is greatly to be feared that not all of them are likely to accept either the author's statement of their own position as accurate and complete, or his criticism of them as convincing.

It is obviously impossible, within the limits of this review, to restate the "traditional" position and the assumptions on which it rests, or to show how the author's case would have been improved by a willingness to deal in a more generous spirit with received doctrine upon the subject, which is certainly sorely in need of reexamination and amendment at many points. The most that can be done is to indicate the matters on which, in the opinion of this reviewer, the author's attack on the "traditional" position or his own "untraditional" analysis, is weakest.

Broadly speaking, the author's argument is concerned with two principal problems. The first of these is summarized by the statement that we are confronted by an "economic dilemma" (pp. 26 ff.): "If a larger percentage of the national income is saved, we have abundance of funds with which to create new capital, but such capital is not profitable. If, on the other hand, a larger percentage is diverted to consumption channels it is profitable to construct new plant and equipment; but there are inadequate funds for the purpose" (p. 35).

To the first of these propositions—namely, that "capital" is "not profitable" if a "larger percentage of the national income is saved,"—the "classical economists" for whom Dr. Moulton has such harsh words (pp. 37 ff.) would of course have retorted that whether or not "capital" would turn out to be "profitable" will depend entirely upon whether the particular types of consumers' goods which the "capital" is fitted to produce can be sold at prices sufficient to cover costs. Dr. Moulton suggests, at one point, that the "classical writers on economics" "assumed" that "increasing expansion of capital goods could proceed for a more or less indefinite period, without any accompanying increase in consumption" (p. 39). If by "more or less indefinite period" is meant "forever," of course the latter statement is rubbish; but there is no evidence that the "classical" writers ever held such a position. They assumed, as Dr. Moulton assumes, that the investment of capital must result in the production of consumers' goods, and that if the investment is to be profitable the consumers' goods must be sold at prices which will cover costs. The only difference between them and Dr. Moulton is that whereas the latter seems for the most part to believe that the key to the "dilemma" with respect to the profitability and the pos-

sibility of capital investment lies in certain mysteries associated with the phenomena of commercial banking, the "classical economists" held that under a system of flexible costs and selling prices in which the demands of consumers are correctly anticipated, the *increased production* which may be expected from capital investment will not only make possible further capital investment but will also supply increased purchasing power for the consuming masses. This, after all, is the heart of the much abused, much misunderstood, and much misapplied "Law of Markets" of J. B. Say. Its truth is recognized by Dr. Moulton himself when he declares that "an increase in the rate of capital formation will bring in its turn an expansion of consumption, made possible by the fuller employment of labor and capital and the consequent increase of wages and profits" (p. 49); and its implications, taken in conjunction with those associated with the qualitative aspects of consumers' demand and the specialized nature of the machines which must be produced before new products can be marketed or new technical processes introduced, provide whatever corrections of emphasis may be needed for a reading of the analytical portions—as a preliminary to a critical reinterpretation of the statistical portions—of Chapter V, on the question: "Which Leads: Consumption or Capital Formation?"

It is in the possibility of *increased production*, also, that the "classical economists" would have seen the answer to the second horn of Dr. Moulton's dilemma: the alleged inevitability of capital-shortage as the result of an increase in "consumption." When Dr. Moulton charges the "classical economists" with having "assumed" that "there could be no increase in capital formation unless the production of consumption goods was decreasing" (p. 39), he completely misrepresents their position. If they would have been prepared to hold that "the fundamental requirement for progress was the restriction of consumption as a pre-requisite to the formation of capital" (p. 40), they would have done so only on condition that by "restriction of consumption" is meant "refraining from consuming all that is produced"—a conclusion which is in the nature of a self-evident proposition, and by no means implies that there must be an actual "decrease" in the production of consumption goods.

Once this is understood, the "evidence" adduced by Dr. Moulton (pp. 43 ff.) to show that "consumption and capital formation do expand and contract together," if this evidence be kept within the limits of interpretation proper to it, hardly has the heterodox significance that the author obviously attributes to it. What one sympathetic to and familiar with the propositions of "traditional" economic theory finds difficult to understand is not the possibility of reconciling this "evidence" with what Dr. Moulton calls the "traditional theory," but the author's apparent unwillingness to admit that "a larger utilization of our productive energy at certain periods," in which he finds an explanation of the "virtually concurrent expansion" in the "output of both capital and consumption goods" (p. 47), is a possibility which "traditional theory" was perfectly willing to take into account.

As has already been suggested, however, Dr. Moulton finds the "escape" from his "dilemma" not primarily in the "larger utilization of our productive energy," but rather in "the operations of the commercial banking system" (pp. 100 ff.). The "escape," according to our author, lies in the

fact that through the use of bank credit it is possible to have sufficient funds for the financing of industry without trenching upon that consumption which, according to Dr. Moulton, is necessary in order to make capital investment profitable. This is, indeed, "untraditional" analysis; it is at the same time the feeblest and least convincing part of the whole book.

It is unconvincing, in the first place, because it fails to realize that the link between the expansion of bank-credit and the possibility of a simultaneous increase in the production of consumers' goods and capital goods must consist of a demonstration that the expansion of bank-credit may, under certain conditions, *cause* a "larger utilization of our productive energy." On this point, much could have been said against most of the "classical economists," who, as a group, were unsympathetic to the idea that money may affect production; and much could have been said in the way of positive analysis in a field which, despite very notable contributions, is still largely unworked. Yet, aside from an occasional remark (e.g., p. 118) to the effect that it is usually assumed, by those unsympathetic to the idea that an expansion of bank-credit may greatly affect production, "that our productive energies are normally utilized at 100 per cent capacity" (cf. also pp. 164, 167), there is little in this chapter that helps toward the construction of a sound theory of the relationship between credit-expansion and production.

The reason for this strange omission, clearly, is Dr. Moulton's amazingly naïve implication that the expansion of bank-credit is *per se* a method of avoiding a contraction of consumption. Such naïveté is amazing for the simple reason that it ignores the theoretical possibilities inherent in the concept of "forced saving," according to which it follows necessarily, under certain conditions, that the effect of an expansion of bank-credit must be to *restrict* consumption. The reviewer was able to find only one instance in which the possibility of "forced saving" is even touched upon (cf. the comment on Professor Hansen, p. 117 n.); and in this single instance the point is dismissed with the vaguest of generalities. And to cap the climax, the concept of "forced saving" is not even mentioned, let alone discussed, in the few pages (164 ff.) that Dr. Moulton devotes to "the theory of F. A. von Hayek"!

So much for Dr. Moulton's "dilemma," and the "escape" therefrom, to which so large a part of the book is devoted. The other principal question which the book raises—the very sketchy suggestions on "The Formation of Public Capital" (Chapter IX) may be disregarded here—is undoubtedly one of very great importance. It is nothing more nor less than the question whether "money savings may at times be greatly in excess of the new capital actually being created" (p. 27), and, if so, what is the explanation of such an "excess." Anyone who is familiar with the intensive discussion of recent years of the analytic possibilities hidden under the phrase "an excess of savings over investment" will have his hopes raised by the announcement of a discussion of that problem; but he will be pardoned if he feels that his hopes are dashed on reading what this volume has to offer on the subject. The statistics presented by Dr. Moulton in the section entitled "What Becomes of 'Excess' Savings?" (pp. 140 ff.) represent one of the few parts of the book bearing a resemblance of the factual content of the earlier two volumes in the series, and certainly raise important questions which call for an answer. Dr. Moulton's own answer to the question

he draws out of the statistics: "What became of the money savings which did not eventuate in new plant and equipment?" is very simple. "The answer is that, aside from that portion which went into foreign issues, the excess savings were absorbed, dissipated, in bidding up the prices of outstanding securities" (p. 151). Dr. Nourse, in his Preface (p. vii) reports that "Mr. Hardy is not convinced of the validity of some of the conclusions reached in Chapter X." It is to be feared that Mr. Hardy will have the company of others familiar with developments in monetary theory during the last decade.

Arthur W. Marget

University of Minnesota

The Economics of Inflation, by H. Parker Willis and John M. Chapman. New York: Columbia University Press. 1935. Pp. IX, 443. $4.50.

This volume, like its predecessor, *The Banking Situation,* is a composite product of the Banking Seminar of the School of Business, Columbia University. The chapters of Part I, "Contemporary Aspects of American Inflation," are identified as the respective work of the instructors, Professors Willis and Chapman. Part II is composed of "Supplementary Essays" contributed by 13 members of the Seminar, whose names, incidentally, are a reflection of the cosmopolitan character of the studentry of Columbia University. Thus constructed, the volume possesses both the merits and limitations of that collaborative composition which has been so conspicuously in evidence in recent social science publications of American universities and research institutions, particularly in the East. What is gained in *inclusiveness* through cooperative specialized investigations tends to be at the expense of synthesized and coherent *conclusiveness.* Doubtless the complexity and extreme changeableness of contemporary economic phenomena, in conjunction with the urge for timeliness in publication, warrant such joint procedure. Such works, however, are likely to be informative and suggestive, rather than consistent and definitive.

Such interpretative unity as the present work possesses is largely the contribution of Dr. Willis who formulates a score of conclusions in the last chapter of Part I. "Perhaps the most general statement which may be offered as a result of the entire study," he writes, "is the fact that what is properly termed inflation is a problem not, as commonly supposed, of money and credit, but of production and consumption. Viewed thus . . . inflation is a process by which the distribution and use of purchasing power on the part of the community is altered. . . . It may, and often does, involve a change in the money quotations of goods of different classes ordinarily termed 'prices,' but it does not necessarily do so and frequently shows no immediate or traceable influence in that direction. . . . Rising prices are by no means universally identical with inflation, while declining prices are seldom synonymous or contemporaneous with deflation."

Such statement of the meaning of inflation is clearly at variance, not only with popular usage of the term, but also with that of the great majority of economists. While redistribution of purchasing power has doubtless generally been the *objective* of groups demanding inflationary action, and while changes in the distribution of wealth and income are unquestionably the *outcome* of inflationary movements, the *process* of inflation itself is almost invariably associated with changes in the quan-

tity or quality of money, or in the creation and direction of credit, resulting in a rise in the general level of prices and a fall in the purchasing power of the monetary unit. It is indeed in this sense that Professor Chapman consistently uses the term "inflation" in the chapters which he contributes on the relation of inflation to speculation, investment, the farmer and the business man. Another collaborator, Mr. Murad, after analyzing current views on inflation in a chapter entitled, "Inflation in Current Economic Literature," concludes that "inflation is generally considered to be essentially a disturbance of prices due to monetary forces" (p. 236).

Although Dr. Willis' extended concept of inflation as a general economic phenomenon rather than as a monetary or financial phenomenon may be criticized as tending to confuse discussion by diverting the term from its accepted usage, nevertheless his analysis is extremely pertinent and suggestive as a basis for evaluating the techniques and discerning the economic implications of contemporary "reflationary" measures and "managed currency" schemes (as suggested in the sub-title of the book, "The Basis of Contemporary American Monetary Policy").

Pointing out that most inflationary devices are based on a crude acceptance of the quantity theory of money, Professor Willis asserts that "the entire idea of a general price level is artificial" and is "at all times an abstract conception." Such a "price level" is merely "a mathematical expression made up of prices representing the relationship of various commodities to money" (p. 210), rather than "a system or structure of prices intimately associated with one another, and responding in substantially similar ways to impulses likely to bring about alteration" (p. 139). Hence "to raise the price level it is needful to raise the individual prices of which it is composed," (p. 210) and "attempts to treat or alter such levels of prices, based on the assumption that they are homogeneous, are doomed to defeat" (p. 141). He affirms therefore that "the problem of prices and price control is not fundamentally a problem of the control of the general level of prices, but is a problem of proper adjustment or relationship of different groups of prices" (p. 141). By implication, if not by direct assertion, Dr. Willis' analysis would thus appear to justify the "commodity attack" by the Agricultural Adjustment Administration, as a means of restoring "farm parity prices," as distinguished from the attack on the general price level through raising the price of gold, as advocated by Professor Warren.

In company with Dr. Benjamin Anderson, Professor Willis holds to the view that the supply of money and bank credit are passive and responsive, rather than actuating and determining factors in price movements. It is the behavior of such imponderables as "the rate of industrial change and growth" and "the prospect of profits" (as emphasized by Slichter), the changing disposition of consumers and producers to spend, borrow or save, changes in conditions of marketing and competition, shifts in bank portfolios from commercial loans to investment assets, that have exerted an increasing weight, particularly in recent years, in determining both the volume and velocity of circulation of money and credit, and their effect on the "price level." With the hypothesis of "other things remaining equal" never being further from the truth than during post-war years, Dr. Willis concludes that "the acceptation of the theory of inflation through changes in purchasing power has never been more difficult than during these same years" (p. 137). Certainly the moderate advance in the general price level

in the United States that has accompanied the drastic devaluation of the dollar, the subsequent inpouring of gold from abroad, the huge silver purchases of the Treasury, and the unprecedented expansion in commercial bank reserves, afford impressive support for the view that price advances are dependent on industrial, trade and psychological factors quite as much, if not more, than on monetary and credit manipulations.

Even though one may be unwilling to accept Dr. Willis' dictum that "inflation occurs when artificial alteration is brought about in the incomes of the several members of the community" (p. 206)—a concept that would logically include wage or price fixing, benefit payments to farmers, or redistributive taxation—it is a familiar matter of historical and contemporary experience that the demands for overt inflationary action have been mainly urged by, or on behalf of, debtor groups or interests confronted by rigid costs which current prices or incomes fail to cover. Insofar as such measures may eventuate in a greater enlargement in monetary incomes than in costs for such groups—an outcome which the authors claim is far from certain—a redistribution of wealth and income is at least temporarily effected between creditor and debtor. Reviewing the various forms or formulas upon which inflationary movements in the United States have concentrated from time to time—greenbackism, bimetallism, "liberalisation" of the banking system, dollar devaluation, "managed currency," Dr. Willis finds in them all a growing disposition to place upon the state "the duty of rectifying the incidence of economic blunders through an alteration of prices and values which, it was taken for granted, could be accomplished through monetary and credit manipulation."

The idea of a "managed currency" he describes as "a philosophy which regards the constant manipulation of the values of the circulating medium as a means of redressing the faults, errors or injustices that have appeared in connection with the ownership of property or more often, the faults and injustices that have made their appearance in consequences of unfair or erroneous management of business. Inflation, conceived of as the alteration of the value of the currency to correct economic injustices, is thus a *static* idea, while currency management or continuous inflation is the *dynamic* presentation of successive policies of inflation adapted from time to time to what are supposed to be the requirements of varying economic classes" (p. 103). While recognizing that currency management is ordinarily and abstractly conceived as "a way of changing currency values that could and should be employed indifferently for raising or lowering such values," he finds that "it has been habitually employed as a policy working in a single direction—that of raising prices and assisting those who have made commitments, to relieve themselves of a part of the burden which they have found it difficult or impossible to sustain" (p. 104). This would appear to be a premature judgment, however, since the more or less deliberate experimentations in currency management by such countries as Great Britain, Sweden and the United States have been applied in a period when a violent decline in the price level had already occurred, and have not yet been exposed to the test of restraining an advance in prices approaching the pre-deflation level.

As the redistributive effects of inflation have been more clearly perceived, such policy, according to Professor Willis, has tended to gain growing support from "so-called moderates as a substitute for the immediate

socialization or communization of all wealth. In lieu of such process which necessarily involves organization and management of the wealth so taken over, inflation or managed currency offers as an alternative, that of continuance of partial repudiation . . . by change in currency values so calculated as to discriminate against the owner of capital" (p. 105). One finds here a failure or unwillingness on the part of the author to recognize that inflationary movements have been most manifest in periods of persisting deflation, and that under deflationary conditions a redistribution of wealth and income occurs to the advantage of the owners of capital and the receivers of contractual incomes.

Although Professor Willis' concept of inflation will appear to most readers to be a distorted one, and although his ideas run counter to contemporary world-wide tendencies, nevertheless what he has written and what he has inspired others to write in this composite volume, constitute a valuable contribution at this time. In emphasizing that the attainment of economic equilibrium calls for a readjustment of price relationships through economic action, rather than an alteration of the general price level through alterations in the basis of the circulating medium, in pointing out the difficulties and uncertainties of attaining the desired results through mere monetary and credit manipulation, and in analyzing the effects of inflation upon the various groups and interests in the community, Dr. Willis and his associates have raised issues which must be squarely faced by "reflationists" and advocates of "a stabilized dollar," whom Dr. Anderson not inaptly designates as "economic chiropractors." Contemporary experience, indeed, affords impressive support for the belief that monetary and credit manipulation is a clumsy, uncertain and erratic device for correcting economic and social maladjustments, and that it may create new disturbances while seeking to ease existing ones.

Harald S. Patton

Michigan State College

The National Recovery Administration, by Leverett S. Lyon, Paul T. Homan, George Terborgh, Lewis L. Lorwin, Charles Dearing and Leon C. Marshall. Washington: The Brookings Institution. 1935. Pp. XVII, 947. $3.50.

Ever since the passage of the National Industrial Recovery Act there has been discussion both in academic and industrial circles of its many characteristics and the likelihood of its success. Round table discussions were held in the annual meetings of the American Economic Association both in 1933 and 1934. No less than a dozen books of discussions, interpretations, and criticism have appeared. Of necessity, practically all of this discussion has been based on past experiences. There has even now been too little time to test objectively all of the results of the act. Members of the staff of the Brookings Institution have followed in considerable detail the course of events as they developed following the passage of the act and have now brought together a statement of their findings. This statement constitutes by far the most elaborate and objective evaluation of the act that has so far appeared. It merits the very careful consideration both of business men and of statesmen.

This study is excellent in its discussion of the underlying law and of administrative organization and procedure under the law. After setting the

stage with this discussion, there follows a critical analysis of specific features such as the wage and hours provisions, industrial relations, and trade practices. Finally the effectiveness of the NRA as a recovery measure is considered.

Throughout the study attention is called to many of the paradoxes connected with the act and its administration. For example, it is pointed out that the act attempted to provide advisory groups nicely balanced between capital, labor, and consumers. By reason of circumstances inherent in the act, the advisory functions of these groups were forced into bargaining patterns. As a result, the theoretical parity of their advisory opinion was destroyed, for one of the groups was strongly organized to operate as a pressure group, the second mildly so, and the third not at all. Or as another illustration, it is pointed out that the control that was granted over prices tended to lessen competitive forces and to result in a higher than competitive price. This control over prices was designed in part to eliminate unfair competitive practices, but in doing so, it tended to eliminate competition itself. Still a third illustration may be cited in the fact that one of the objectives of the act was to balance production with consumption. It is pointed out in this connection that in the administration of the act there was a naïve disregard of the fact that the balancing of consumption and production is primarily a matter of price.

Perhaps a paragraph from one of the early descriptive chapters in the study may be taken as representing the authors' general position towards the NRA as an effective political mechanism. This paragraph states: "Should the NRA be continued there are certain minima of legislative control in the absence of which it is impossible for such an administrative agency to function properly. One is the statement of objectives in unambiguous terms, together with the criteria of judgment and measurement to be used. Another is the provision of a form of administrative organization capable of maintaining continuity of policy and method. Another is the creation of an executive coordinating agency to adjust the activities of the multifarious new administrative agencies to one another. An impartial board is the only sort of superior administrative body which could rescue the NRA from its bargaining plane, and establish it on a basis of impartial administration. An organization such as the NRA can have no appropriate place in a system of representative government unless protected from the subjective whims of uninstructed officials."

One gets the impression that the authors of the study feel not only the ineptness of the machinery of control, but also the lack of wisdom of attempting any legalistic control of certain features of our economic system; particularly the matter of price, production, and inventory control is questioned.

The authors point out with considerable force the further criticism of the act and its administration that sufficient use was not made of previously established institutions; for example, in the problems of trade practices the Federal Trade Commission had built up a long series of precedents as well as a machinery for studying trade conditions and alleviating unfair conditions. This mechanism and in part, the collection of precedents, were disregarded by the NRA. Pressure groups undertook to establish new and untried methods of conduct as well as new organizations for enforcement of the rules of competition.

It is perhaps unfortunate that more objective measurements of the results of the NRA have not been analyzed. It seems probable that a study should still be given to the things that happened during the hectic life of the organization. This is probably taking place to a degree within the remnants of the organization itself. It would seem wise in addition to such internal study, however, to urge that the Brookings Institution continue its careful review, both of the activities of the organization and the repercussions on the three major groups involved, namely, capitalists, laborers, and consumers.

Roland S. Vaile

University of Minnesota

The Tariff on Dairy Products, by Ronald R. Renne. Madison, Wisconsin: The Tariff Research Committee, 1933. Pp. 171. $0.50.

The Tariffs on Barley, Oats and Corn, by Theodore W. Schultz. Madison, Wisconsin: The Tariff Research Committee, 1933. Pp. 116. $0.50.

These two studies are excellent bits of analysis of the vexing tariff problem. They are sufficiently statistical to be convincing to anyone but a born protectionist or to one with a special interest, yet stop short of the involved mathematico-statistical formula that might frighten away those who most need to read them.

The Tariff on Dairy Products undertakes to measure the effects of the tariffs on each of the several dairy products in terms of price and then converts the price effects into gross and net benefits to producers and burdens on consumers.

The approach is mainly the price differential method. Thus for butter the comparison is of 92-score butter in New York with best quality New Zealand butter in London. Chapter III should make interesting reading for any ardent protectionist. It is preceded by a table comparing prices in the two markets, New York and London. In 1926, after the tariff had been raised to 12 cents, New York butter prices varied from 2.9 cents to 17.7 cents above London prices. In 1927 they varied from 5.1 cents to 17.3 cents. And in 1931 from 2.2 cents under London to 13.3 cents over. The chapter proceeds to outline the year-to-year changes in the way market forces acted on butter prices in the two markets. On the one hand are changes in supplies in this or other countries; on the other are changes in demand here or abroad resulting from such phenomena as spurts of prosperity, coal strikes, abandonment of the gold standard, changes in the use of oleomargarine, etc. The analysis is interestingly summarized in tabular form (p. 57).

Chapter IV on "Butter Substitutes" is equally interesting. In this the author seeks to determine the nature and intensity of competition between butter and oleomargarine. He distinguishes between "normal substitution," i.e. the amount which goes on even when butter prices are lowest, and "price substitution" which goes on in varying degrees when prices of butter rise.

Other dairy products are treated in much the same way as is butter.

The editors of the report conclude:

> The conclusion that the dairy farmer receives some benefits from the tariff should not blind him to the fact that so long as the major farm products are in competition

with the world, there is a constant tendency to undermine the small benefits he now receives. . . .

The picayune benefits obtained from the tariff on agricultural products considered singly are as nothing compared with the direct and indirect cost of the tariff system to the American farmer. The gains which would accrue to dairy as well as other farmers from a revival in world trade and industry far outweigh the small advantage received from rates on particular products. Yet since these small benefits are visible to the producer and the indirect losses are not, the farmer still appears to be a defender of a system which is contributing to his ruin.

The Tariff on Barley, Oats and Corn approaches the problem in somewhat the same manner as does the study on dairy tariffs. The author stresses particularly price differentials. For barley he compares Winnipeg and Buffalo spot prices and Winnipeg and Minneapolis future prices (pp. 33-39). For oats he compares Chicago and Winnipeg spot and future prices. For corn the major comparison is the Chicago and Buenos Aires prices and a comparison of the two corns on the Liverpool market (spot prices). The author's conclusions are less definitely stated than is the case in the dairy study; that is, they are not stated in terms of so many dollars of benefit to producer or of burden to consumer. Rather the author states his conclusions in such paragraphs as the following:

If the preceding price comparison between Minneapolis and Winnipeg presents a normal relationship, the tariff has obviously not affected barley prices, except during the period when the stabilization operations by the Federal Farm Board raised domestic prices. The cash prices and even more the prevailing futures prices indicate a general sympathy between these two primary markets.

Normally, the American producers are not benefited by the 16-cent per bushel duty on oats. . . .

But this generalization must be qualified. (Then follow a few exceptions, pp. 64-65.)

It thus appears that the tariff is not an important price factor. It does not raise the general level of corn prices in the United States. (Then follow summaries of reasons.)

Both publications are well illustrated with graphs and tables and both are apparently written for the general rather than the technical reader. The dairy study has an additional interest in that it represents a type of product with reference to which we are at times on an export basis and at times on an import basis with frequent shifts from one situation to another. The feed-grain study on the other hand represents a case where predominantly we are on an export basis either with reference to the feeds themselves or their products.

One general comment should be made with reference to a limitation on the analysis of both these reports from the point of view of benefits to American producers. While there is some reference to disappearance of benefits, it is nowhere clearly brought out that in the long run benefits are likely to pass into land values. During a period of violent price changes such as that of the past twenty years, it would obviously be impossible to measure such transfer of benefits. It is reasonable to suppose, however, that if for a generation prices of a given farm product were maintained at a higher level than they would be without a tariff and are not offset by higher costs as a result of the tariff, the increased profitableness of that particular type of agriculture would not only lead to a lowering of the

prices themselves by shifts from other lines of production, but any residuals would be absorbed in land values if land were gradually passed from one generation to another or from one speculator to another in the community involved. The net result is that, if the tariff were effective at the beginning of a generation period, the new generation of farmers some twenty or thirty years later (more likely less) would no longer be benefiting by the tariff even though the statistical analysis as handled in the two studies under consideration were to show a benefit.

H. E. Erdman

University of California

The Grain Supply Area of the Chicago Market, by Edward A. Duddy and David A. Revzan. Chicago: University of Chicago Press. 1934. Pp. IX, 84. $1.00.

"The purpose of the present study," as stated by the authors, "is to examine in some detail the relations of the Chicago grain market to its area of supply. . . ." The study "is one of a projected series of market-area investigations the purpose of which is to provide an inductive basis for drawing some conclusions about the attractive and distributive functions of large central markets, . . ."

Following the introduction, in which is presented a brief historical sketch of the rise of Chicago as a grain market and its decline in relative importance in recent years, 60 pages in eight chapters are devoted to an analysis of the receipts at Chicago of 877,739 carloads (nearly the entire receipts) of wheat, corn, oats, barley and rye, over a nine-year period, 1924-1932. The receipts of each kind of grain are classified on the basis of origin (county and state and central markets), method of transportation (rail and water), and time by months.

The physical task involved in accounting for and classifying on several bases almost the entire receipts for nine years for so important a market as Chicago represents an undertaking of considerable magnitude. One of the important merits of the study is that it makes available a considerable amount of factual information and basic data which, as the authors state, are not generally available. Students of marketing will, however, regret that the data on which the graphical presentation of the seasonal character of the receipts by point or area of origin are based, are not included in the publication.

The analysis on the whole seems to have been well handled, and, as the authors state, "It has been possible to define quite accurately the sources of supply of the different grains. The annual changes and seasonal characteristics of the grain flow have been noted and an attempt made to explain some of the reasons for the changes which occur."

The authors summarize and conclude as follows:

1. The Chicago market is dependent for its supplies of wheat, corn and oats upon nearby areas, principally Illinois and Indiana, supplemented by the over-flow of wheat from the southwestern winter-wheat area, the over-flow of corn from Kansas City, Omaha and Minneapolis, and the over-flow of oats from Iowa through Cedar Rapids, some question being raised as to Chicago's ability to continue to attract wheat from the southwest because of the development of flour milling in that area, and to attract oats from Iowa because of the diversion of Iowa oats to Cedar Rapids.

2. In the case of barley and rye, however, nearby sources are inadequate

to supply the brewing and distilling industries and other demands at Chicago. Minneapolis, which until 1929 was the chief source of outside supplies of barley, is being displaced by Milwaukee. Rye especially must be drawn from distant points, chiefly Minnesota; Wisconsin and Illinois will probably continue as important secondary sources. Foreign rye has also entered the picture.

3. "Although Chicago is able to penetrate the important surplus-grain areas of Illinois and Iowa when differences in prices and freight rates with other markets are alone considered, other competitive forces are operating to neutralize these primary competitive factors. Some of these forces, like the shift in the center of hard winter-wheat production and the change in the character of agriculture in the spring-wheat states, are general in their nature and point to rather permanent changes. Others, like the call rule and changes in freight rates, truck and water competition, are subject to more or less frequent change. Those whose interests are identified with the preservation of the Chicago grain market can be depended upon to fight a skillful battle so far as these forces which are subject to change are concerned. What the long-run tendencies of change will bring forth is not so clear and not so subject to control."

Other observations gleaned from the study are:

4. When the county origins of country-run grain receipts are analyzed, it is found that there is a strong tendency for identical counties (small in number compared with the total number of counties making shipments to Chicago) to ship grain to Chicago with a high degree of consistency, in spite of the fact that some of such counties are located in highly competitive areas. These counties are concentrated in restricted areas mainly in Indiana, Illinois and Iowa.

5. Although "Chicago ranked first in combined grain receipts for the period 1920-31, . . . in 1930, for the first time in the history of the market, combined receipts at another market (Minneapolis) exceeded receipts at Chicago. Since 1930 Chicago has again ranked first in total grain receipts. The trend has been against Chicago, however. . . . The decline in receipts at Chicago has been pronounced since 1922. Only during the war years and in 1921 and 1922 have receipts been larger than in 1900; as a primary market Chicago has been declining in importance since that date. . . . One may safely assert, however, that Chicago will continue to have an important part in the grain trade of the country for quite some time to come."

The writer feels that the authors have creditably carried out their purpose, namely: "To examine in some detail the relations of the Chicago market to its area of supply. . . ." The feeling of inadequacy of this study with which the reader may be struck in attempting, on the basis of it, to make an appraisal of the economic status and significance of Chicago as a grain market, is to a large extent dispelled by material published subsequently, particularly, "The Competitive Position of the Chicago Market in the Region of Grain Supply," which appeared in the October, 1934, issue of this JOURNAL, and "The Shipment of Grain and Grain Products from Chicago" published in the April, 1935, issue of "The Journal of Business" of the University of Chicago. The study being reviewed must, therefore, be judged in the light of the particular part of the whole undertaking with which it deals.

Considering the material thus far published, it appears that the plan adopted by the authors is, first, to relate the Chicago market to its supply areas; second, to ascertain the competitive position of Chicago in its supply areas; third, to relate the Chicago market to the deficit areas it serves. Would it not be more logical to approach the subject from the point of view of the relationships that exist between given deficit areas and the surplus areas which are potential competitors seeking to supply the demands of the deficit areas, and then to establish the factors that control or influence the streams of grain traffic that arise between or among them? This approach would tend to shift the emphasis from a consideration of the relationship of Chicago to the areas from which it draws and to which it ships, to a consideration of the relationships that exist between Chicago and the *streams* of grain traffic generated by the relationships that exist between the surplus and the deficit areas.

This may be a minor point and the results might not be far different. The authors point out that historically these streams have changed and are changing, and that as a consequence the status of Chicago as a grain market has responded to these changes.

However, the probable extent to which the Chicago market may be affected in the future as a result of probable absolute decreases as well as future shifts in the streams of domestic grain traffic as American agriculture becomes more completely adjusted to the loss of foreign markets for wheat, cotton and hog products, is not sufficiently stressed by the authors.

The authors conclude on the basis of the study being reviewed that Chicago has a competitive advantage in given restricted areas of supply. The basis for drawing such conclusions in terms of relative prices and freight costs, however, appears in the second publication—"The Competitive Position of the Chicago Market . . ." referred to above. In this connection, it may be asked, to what extent are country elevators in such areas owned or controlled by Chicago grain receivers, millers or brokers. Also to what extent has the Farmers' National Grain Corporation influenced the streams of grain traffic?

The reader may also wonder to what extent the Chicago market has resisted the normal trends in grain traffic. The struggle of grain markets to gain or retain a hold upon grain traffic may or may not result in more efficient distribution of grain. Intermarket competitive tactics that may be employed under such circumstances are more likely than not to interfere with normal evolutionary processes and tend to "freeze" a given market structure. In view of the slowness with which economic institutions are prone to adapt themselves to change, there is a strong probability that adaptations lag considerably behind current trends in the grain market as a whole, and probably more so in the case of a market center which has held and still holds so dominant a position in the grain trade as Chicago.

That grain may be "diverted" to Chicago is suggested by the authors when they say (top of page 9): "The grain futures market is still a factor in drawing grain to the Chicago market for purposes of insuring a sufficient supply for delivery on futures contracts." Conversely, the "call rule," barely mentioned in the study being reviewed but more definitely brought into the picture in the second publication, has tended to "repel" grain traffic from its "normal" channels. The authors' observation to the effect that the

Chicago grain trade "may be depended upon to fight a skillful battle . . ." in order to preserve the Chicago grain market is undoubtedly correct. The reader may draw his own conclusion as to whether or not such a battle is likely to be fought solely in the interest of grain producers and consumers.

Frank Robotka

Iowa State College

The Principles of Marketing, by Henry F. Holtzclaw. New York: Thos. Y. Crowell Company. 1935. Pp. 694. $3.75.

Henry F. Holtzclaw, who is professor of commerce at the University of Kansas, sets forth in this 694 page book a résumé of the entire field of marketing—including manufactured and non-manufactured agricultural and industrial commodities. Marketing methods of the manufacturer, the wholesaler, the retailer and the producer of agricultural products are all briefly treated. The field covered is so vast and the topics discussed so numerous that the author was unable to exhaust any of the phases, in fact, was obliged to limit himself to only glimpses of certain portions.

Chapter I leads off with a discussion of marketing functions and distribution channels. The next two chapters are concerned with the consumer, his motives for buying and how the natural qualities of various goods, together with adaptations brought about through the marketing functions, become important factors in meeting consumer demands. These are followed by five chapters on retail and wholesale distribution, including chain stores, department stores and mail order houses.

While the book is designed primarily as a text for a first course in marketing for Schools of Business Administration and Colleges of Liberal Arts and Science, three chapters are given over to a discussion of private and cooperative marketing of agricultural products and cooperation of consumers and of retailers. In addition to these three chapters, devoted more specifically to the marketing of agricultural products, much discussion in the pages which follow gives attention to phases which relate to farm products. These include considerations of storage and refrigeration, simplification and standardization, finance, risk-bearing, commodity exchanges and speculation, market costs, etc.

An outstanding and excellent feature of the book is the well-selected list of questions and problems at the end of each chapter. These tend to give life and reality to the treatise. Following the questions and problems is an ample number of references together with a descriptive sentence suggesting the context of each reference cited.

The direct and straightforward presentation of fact hold one's interest. Much of the discussion is put in a rather flowing style and throughout the book the writing is cast in such terms as not to tax the reader unduly. Although not entirely lacking in the theoretical considerations of marketing, description plays the larger role.

The condensing of the text naturally carries with it certain weaknesses. Portions of the book may be subject to criticism in that they fall short in setting forth a complete and balanced presentation of the subject under discussion. As an outstanding example—not a representative one—in discussing dairy products, the author says: "The dairy farmer is an independent individual and many dairymen are never satisfied with what

they are getting out of life. They are constantly jealous of the people to whom they sell, always wanting a higher price for their product, and objecting to the 'red tape' of 'city' inspecting, believing, as some of them do, that such is pure nonsense."

One is tempted to believe that a statement purporting to throw dairy farmers into one general category, possessing attitudes peculiar to themselves would require considerable supporting evidence. Dairy farmers are not the only people who at times become dissatisfied with their station in life or who are jealous of those to, or through whom, they sell their products. One has only to review the accounts of some grain farmers, individually or in groups, in their condemnation of the "speculators"; of livestock farmers in condemning the meat packers or to listen to the scathing remarks on the part of labor groups directed at the capitalistic employers, to conclude that objections concerning their economic conditions are quite common, and that a not-too-chummy feeling is often cherished by the sellers of wares and labors toward those who purchase them.

Continuing his discussion concerning the dairy farmer, the author says: "The farmer may make use of several methods of disposing of his dairy products. He may sell milk, butter, and sweet cream direct to the consumer or direct to the retailer; he may sell milk and cream to the 'city plants' where the product is pasteurized, bottled, and later delivered to the home, the restaurant, or the retail store; or he may market through a cooperative association of which he may be a member."

This statement conveys the impression that all, or substantially all, dairy farmers have several alternative methods in disposing of their dairy products. In reality—taking the country as a whole—only a limited number of dairy farmers have a choice as to whether they dispose of their milk or cream to a cheese factory, a creamery, or to a milk distributor who resells milk at wholesale and retail. For instance, farmers living in a surplus dairy producing region such as is common over a large portion of the North Central states, have little opportunity to sell milk to be used for products other than butter and in very limited areas condensed milk or cheese. Especially is this true in the butter "centralizer" area and in the creamery areas.

The reviewer is aware that it is over-easy to criticise the author unduly on points of incompleteness, since to have exhausted the many phases of marketing covered in this book and to have qualified all the statements would have required several massive volumes. Abbreviation of the presentation made necessary in order to hold the book within reasonable size must almost with certainty lead to possible misinterpretation of those parts of the discussion which lend themselves to a dual-meaning, or of those phases of the subject which are, by their very nature, of a contradictory character.

The author lays no claim to having contributed a large amount of entirely new and original material. This does not necessarily depreciate the value of the treatise. The proportion of original material contained within its cover, may not be a criterion by which to measure the usefulness of a textbook designed for a survey course in marketing. Information from many books, state and Federal Government publications, as well as published and unpublished materials from private and semi-public sources,

much of which is available only in the larger libraries has been assembled and interpreted. Current material including such as that on the late NRA codes was given attention in accordance to its importance.

Readers who may be disposed to question the factual substance will have to deal not only with the author of the book, but also with others upon whose writings he has drawn. Although numerous writers in the field of marketing have been freely quoted, Professor Holtzclaw's *Principles* should be looked upon as much more than a compilation gathered from secondary sources. The author takes full responsibility for the plan, the point of view and the execution of the work.

W. P. Mortenson

University of Wisconsin

NEWS ITEMS

Meeting of the Western Farm Economics Association

The annual convention of the Western Farm Economics Association was held this year at Corvallis, Oregon, August 12 and 13. The following general topics were discussed after the presidential address by Dr. A. F. Vass, of the University of Wyoming: I. Relation of economic theory to present agricultural problems; II. General aspects of regional planning; III. Marketing agreements; IV. Land planning; and V. Production control. Professor L. A. Moorhouse, of Colorado State College, was elected president for the coming year, with Dr. George M. Peterson, of University of California, as vice-president, and Professor Milton N. Nelson, of Oregon State Agricultural College, as secretary-treasurer.

University of Maryland Has New Department

A Department of Sociology and Public Welfare has been established at the University of Maryland, College Park. Its program includes both teaching and research in sociology, urban and rural, and will be closely tied in with the public welfare work of the State. By the fall of 1936 it is expected that a post-graduate major in sociology will be available as part of the resident course of study. The research work in rural areas will be undertaken cooperatively with the Maryland Agricultural Experiment Station. Dr. T. B. Manny, who has been acting in charge of the Division of Farm Population and Rural Life, Bureau of Agricultural Economics, since July 1, 1934, has been made head of this new department. Before joining the Bureau staff in 1927 Dr. Manny was for several years head of the Department of Sociology at Hendrix College, Conway, Ark.

International Commission of Agriculture

The International Commission of Agriculture (International Union of Agricultural Associations) held its general assembly at Brussels and Gembloux, Belgium, under the chairmanship of Marquis de Vogüé (France), President. 110 delegates, representing 53 agricultural organizations, attended the meetings, as well as representatives of the Belgian Ministry of Agriculture, the League of Nations, the International Labour Office, the International Institute of Agriculture and the International Cooperative Alliance. The Special Commission for Agricultural Cooperation and the Special Commission for Agricultural Labour gathered at the same time.

The assembly devoted special attention to the present condition of agriculture. It came to the conclusion that in spite of the fact that useful measures had been taken in several countries since 1932, condition of agriculture had still grown worse. Therefore the Commission adopted a declaration insisting upon the different requests of its Lausanne declaration and setting up new proposals. The Commission is convinced that the two main problems to be solved in order to overcome the agricultural crisis are the wheat problem and the edible fats problem: on the one side the London Wheat Agreement of 1933 ought to be prolonged and improved; on the other side the old civilized countries ought to take measures or improve the existing measures in order to prevent consumption of tropical

fats and whale oil from handicapping the normal production and consumption of butter and lard. The declaration also lays stress upon the necessity to improve prices of agricultural produce, reduce the cost of production as well as to increase consumption.

The International Commission of Agriculture will hold its next meeting, 1936, in Oslo, Norway. It was decided that the XVIIth (1937) International Congress of Agriculture would take place in The Hague.

The Fourth International Conference of Agricultural Economists will be held at Dunblane, Perthshire, Scotland, during the week beginning August 30, 1936, according to a preliminary announcement from the Secretary, John R. Currie, Dartington Hall, Totnes, Devon, England, who will appreciate notice of intention to attend the conference, in order that adequate arrangements may be made.

Inspection service for fresh fruits and vegetables and poultry and eggs in Hawaii has been begun under provisions for a Federal-Territorial inspection service made last spring by the Territorial legislature.

Mr. Christopher Otto Moser, one of the most active and well-known men in the cooperative marketing movement died suddenly July 11 at his home in Silver Spring, Md. Mr. Moser was born 50 years ago in Dallas, Texas, was graduated from Texas A. and M. College in 1904, and throughout his career owned and operated a dairy farm near Dallas, and produced cotton. He organized the Texas Farm Bureau, and he was the leading spirit in forming the Texas cotton cooperative, of which he became manager. He helped form the American Cotton Growers Exchange, and was later its president. He was the first president of the National Cooperative Council set up in 1929 and served on the executive committee until last year, when he became president of the Institute of American Fats and Oils, opened in Washington, D.C., to promote markets for American grown fats and oils, particularly cottonseed oil.

Mr. Gray Silver, long a leader in the struggle for better economic conditions for farmers, died at his home in Martinsburg, W.Va., July 28, aged 64 years. All of his life a dirt farmer, stockman and fruit grower, Mr. Silver took an active interest in public affairs in his community and in the state, serving as state senator and as lieutenant-governor. He gained national recognition through his work in the American Farm Bureau Federation in 1919, and in January 1920 as its Washington representative he became very influential in legislative work with the Congresses, being known as "the man who ran the farm bloc." The French Government, decorated him for "distinguished service in agriculture."

The following have been awarded assistantships in the Department of Agricultural Economics and Farm Management, Cornell University, for the current year: Charles G. Blanford (B.S., Cornell University); George E. Brandow (B.S., Cornell University); M. Eugene Cravens (B.S., University of Kentucky); William J. Edens (B.S., Mississippi State College; M.S., Cornell University); Austin Goth (B.S., Nebraska; M.S., Kansas State College); P. A. Henderson (B.S., University of Nebraska); Edwin

H. Matzen (B.S., Iowa State College); and Orville H. White (B.S., Purdue University.

Recently appointed research assistants in the Division of Agricultural Economics, University of Minnesota, include H. O. Anderson, S. E. Engene, Kenneth Heggenhaugen and G. Leroy Peterson.

Research Assistants in Agricultural Economics at University of Tennessee for 1935-36 are as follows: John E. Mason, Wm. E. Hendrix, Frank M. Fitzgerald, and Craig M. Smith.

The Agricultural Economics Branch, Department of Agriculture, Ottawa, Canada, has added the following to the staff: Dr. C. C. Spence, Mr. G. H. Craig, Mr. I. S. MacArthur, and Mr. G. Boucher. Messrs. W. J. Hansen, W. N. Watson, J. Proskie, and C. G. Elliott have been employed under the Prairie Farm Rehabilitation Act passed at the last session of the Canadian Parliament, and will be engaged in a survey of land utilization being conducted in cooperation with the Provincial Departments of Agriculture and the Universities of Saskatchewan and Alberta.

Dr. B. W. Allin has returned to the U. S. Department of Agriculture as assistant to Assistant Secretary M. L. Wilson.

Mr. J. B. Andrews left the Department of Agricultural Economics at the University of Illinois to join the Resettlement Administration as State Land Planning Specialist.

Mr. F. M. Atchley has been employed as an assistant in agricultural economics at the University of Illinois. Mr. Atchley is a graduate of Iowa State College.

Mr. Joseph A. Becker has been placed in charge of the Division of Crop and Livestock Estimates, Bureau of Agricultural Economics, and is Chairman of the Crop Reporting Board, positions vacated by Mr. W. F. Callander upon his resignation August 16.

Mr. A. J. Brown, a graduate of the University of Illinois in 1935, has been added to the staff of that institution as an assistant in agricultural economics.

Dr. F. W. Brumley (Cornell University, 1935) has returned to the University of Florida, where he is an extension economist in Farm Management.

Mr. J. Howard Brown, former vocational agriculture teacher, has been added to the farm management staff at Purdue University for the academic year 1935-36 to teach extension classes in advanced farm organization to vocational agriculture teachers in the state.

Mr. Jasper P. Burnett has resigned as Research Assistant in Agricultural Economics, Tennessee Experiment Station, to accept a position in the agricultural department of the Tennessee Valley Authority.

Professor A. S. Burrier, research specialist, Department of Farm Management, Oregon State College, who has been serving as Land Planning

Consultant for Oregon with the National Resources Board, has been appointed Land Planning Specialist for Oregon with the Resettlement Administration, Region 11.

Mr. E. L. Butz, formerly with the farm management department at Purdue University, is now connected with the Farm Credit Administration, with headquarters at Louisville, Kentucky. Mr. Butz is making a special study of the organization and management of the several local farm loan associations in the Louisville district.

Dr. Gordon F. Cadisch has resigned as director of the School of Business Administration, State College of Washington, to become dean of Hudson College of Commerce and Finance at St. Peter's College, Jersey City, N.J. Dr. Cadisch plans also to enroll at Columbia University, to prepare for a second doctor's degree, this one as doctor of education.

Mr. W. F. Callander has been appointed Assistant Administrator of the Agricultural Adjustment Administration, Washington, D.C., effective August 16. From July 1923 to the time of his resignation Mr. Callander was in charge of the Division of Crop and Livestock Estimates, Bureau of Agricultural Economics, and Chairman of the Crop Reporting Board.

Mr. Paul Carpenter, formerly extension economist, Montana State College, is now extension specialist in marketing at Oregon State College.

Mr. James Cavin, on leave of absence from the University of Puerto Rico and during the past year a graduate student at Harvard, has been given a fellowship appointment at the Brookings Institution. Mr. Cavin's thesis is on the subject of regulation of United States supplies of raw sugar under the Jones-Costigan Act.

Mr. F. A. Coffey, Extension Economist, New Mexico State College, is spending a year's leave doing graduate work at Cornell.

Mr. Ralph Cole is now with the Farm Credit Administration.

Mr. Charles Creek has been appointed research assistant in the Department of Agricultural Economics, Massachusetts State College. Mr. Creek has been in charge of the Rural Unemployment Survey for the Federal Relief Administration in Indiana, stationed at Purdue University.

Mr. J. B. Cunningham, former fieldman in the Farm Bureau-Farm Management Service, and located at Ottawa, Illinois, has been appointed assistant professor in farm management extension at the University of Illinois.

Mr. C. B. Davidson of the Agricultural Division, Dominion Bureau of Statistics and a member of the Dominion Marketing Board, has been appointed Secretary of the Canadian Wheat Board.

Dr. J. S. Davis, who has been on sabbatical leave from the Food Research Institute for the past year, has recently returned to California. While on leave, Dr. Davis spent most of his time at the Brookings Insti-

tution in Washington completing a study of "Wheat and the AAA." Following the publication of this volume, which is one of six dealing with various phases of the AAA, Dr. Davis spent the summer months in New England.

Mr. A. J. Du Plessis (M.S., Cornell University, 1935) has returned to South Africa, where he has a position with the Department of Agriculture.

Mr. R. J. Eggert has been made an assistant in agricultural economics at the University of Illinois. Mr. Eggert graduated from that institution in 1935.

Mr. Dalson H. Esry has resigned as research assistant in agricultural economics, Tennessee Agricultural Experiment Station, to accept an appointment as a farm management specialist with the Resettlement Administration.

Mr. William G. Finn, of the tobacco section of the Agricultural Adjustment Administration, has been sent to Europe to study tobacco production and consumption with particular reference to the outlook for European demand for various types of American tobacco. He went first to Berlin, then to the Scandinavian countries, and planned also to work at Paris and at London.

Mr. D. A. FitzGerald, following the completion of his book "Livestock and the AAA," which was recently published by the Brookings Institution, accepted an appointment in the Livestock and Feed Grains Division of the Agricultural Adjustment Administration.

Dr. L. F. Garey of the Division of Agricultural Economics, University of Minnesota, has been granted leave for the academic year and is carrying on research work at the University of Nebraska.

Mr. Austin Goth, Farm Management Demonstrator at Montana State College, has been granted a leave of absence to June 30, 1936, to accept a fellowship at Cornell University. Mr. Goth will do graduate work in farm management.

Dr. H. C. Grant, in charge of Agricultural Economics at Manitoba University, Winnipeg, has been appointed a member of the Canadian Wheat Board.

Dr. T. W. Grindley, Chief, Agricultural Division, Dominion Bureau of Statistics, was one of Canada's representatives at the recent conference of Empire Statisticians at Ottawa. Delegates were present from Great Britain, the Irish Free State, Australia, South Africa, New Zealand, Newfoundland and India. The conference, which lasted several weeks, was called for the purpose of comparing and unifying as far as possible, the methods of compiling governmental statistics in the various countries comprising the British Commonwealth of Nations.

Professor Conrad H. Hammar of the department of Agricultural Economics, University of Missouri, has been given a year's sabbatical leave

which he will spend at Cornell University. While there he will give some work in land economics, but devote most of his time to the completion of a manuscript for a text in principles of agricultural economics.

Mr. H. R. Hare, Assistant Economist, Agricultural Economics Branch, Ottawa, has been engaged for some months as secretary of a special committee, which has been conducting a national survey dealing with the feed grain situation.

Mr. Gilbert H. Hatfield, Assistant Agricultural Economist at Tennessee Experiment Station, has resigned to accept a position in the soil conservation service at Washington. Mr. P. B. Boyer is carrying on the cooperative work in cotton marketing formerly done by Mr. Hatfield.

Mr. Chas. W. Hauck has been granted a three months' leave of absence from the Ohio Agricultural Experiment Station to engage in a study of Fruit Auctions on the Chicago and St. Louis markets.

Mr. T. R. Hedges, formerly of the Department of Agricultural Economics at the University of Illinois, has joined the staff of the Department of Agricultural Economics at Oklahoma A. and M. College.

Mr. W. A. Herrington, formerly farm adviser in McHenry County, Illinois, has been made fieldman in the Farm Bureau-Farm Management Service and will be located at Normal, Illinois.

Mr. A. F. Hinrichs, Associate Professor in Marketing, Purdue University, received his Ph.D. degree from the University of Minnesota in June of this year. His thesis was: "An Economic Study of Farmers' Elevators in Indiana."

Mr. J. Wesley Hoffman, formerly assistant professor of History and Government at Montana State College, has accepted the position of Assistant Supervisor of Rural Research for Montana, under a cooperative arrangement between the Department of Agricultural Economics, Montana Experiment Station and the Division of Research and Statistics, FERA.

Mr. H. J. Houk has been appointed a half-time research assistant in the Department of Farm Management, Purdue University, effective July 1, 1935.

Mr. B. R. Hurt, who graduated from the University of Illinois in 1935, has been added to the staff of the Department of Agricultural Economics of that institution as an assistant in farm management.

Miss Lorian Jefferson, assistant research professor in agricultural economics at Massachusetts State College, resigned August 1 because of poor health. She had served the college for twenty-seven years.

Mr. Alexander Joss (M.S., Cornell University, 1935) is now teaching farm management and agricultural economics in the Department of Agricultural Economics, University of Idaho.

Mr. J. B. Kohlmeyer, Instructor in Farm Management, Purdue University, who has been on leave of absence since February as Project Manager under the Land Policy Section of the AAA in charge of two sub-

marginal land projects in southern Indiana, has secured another year's leave to serve as Land Use Planning Specialist for Indiana, with headquarters at Purdue University. Mr. Kohlmeyer is also teaching a graduate course in Land Utilization at Purdue during the Fall Term 1935-36.

Dr. Erich Kraemer, now with the Agricultural Adjustment Administration, Washington, D.C., left in September for several weeks' visit in Germany, where, besides seeing relatives, he will study land utilization and land settlement problems.

Dr. C. F. Kraenzel, formerly Assistant State Supervisor of Rural Research for Wisconsin, who completed his graduate work in Rural Sociology at the University of Wisconsin, has accepted a position as Assistant Professor in the Department of Agricultural Economics, Montana State College. Dr. Kraenzel will also act as State Supervisor of Rural Research for Montana under a cooperative arrangement with the Division of Research and Statistics of the FERA, Washington, D.C.

Dr. J. E. Lattimer, Professor of Agricultural Economics, Macdonald College, spent part of the summer at Ottawa, engaged on a project in cooperation with the Agricultural Economics Branch, Dominion Bureau of Statistics.

Dr. A. T. M. Lee (Cornell University, 1935) is now an instructor in marketing in the Department of Agricultural Economics and Farm Management at Cornell.

Mr. Karl Lee, a graduate of Utah State Agricultural College, has been made assistant in farm management in the Department of Agricultural Economics at the University of Illinois.

Mr. Broder F. Lucas, Land Planning Consultant, cooperating with the Tennessee Experiment Station, has secured a leave of absence for further study at Cornell. Mr. E. P. Callahan is Acting Consultant during his absence.

Mr. B. H. Luebke was appointed Assistant Agricultural Economist, Tennessee Agricultural Experiment Station, effective September 1.

Dr. C. G. McBride, who served as Secretary of the Ohio Milk Commission, returned to his duties in the Department of Rural Economics at Ohio State University on July 1.

Mr. D. F. McCandliss, Senior Agricultural Statistician, Bureau of Agricultural Economics and regional cotton statistician for Mississippi, has been called to the Washington Office to direct the research work of the Division of Crop and Livestock Estimates formerly carried on by Mr. Becker.

Mr. D. G. L. MacFarlane, a graduate of the University of Saskatchewan, who has been doing graduate work at the University of Minnesota, will be in charge of agricultural economics at Manitoba University during the leave of absence of Dr. Grant.

Mr. J. Clyde Marquis, Director of Economic Information, Bureau of Agricultural Economics, has gone to Rome to work with Dr. H. C. Taylor

and others at the International Institute of Agriculture on the development of the publication services of the Institute. Mr. and Mrs. Marquis sailed from New York October 2, and expect to be away about three months.

Mr. James H. Marshall, formerly research assistant in agricultural economics, Tennessee Agricultural Experiment Station, has been appointed to an assistantship in the Giannini Foundation.

Mr. Arthur Mauch joined the farm management staff at Purdue University September 1 as an instructor in farm management. Mr. Mauch formerly was connected with the Farm Management Department at the University of Nebraska.

Mr. Ronald Mighell, assistant research professor, Massachusetts State College, and Mr. Roy Moser, extension specialist in Farm Management, have been granted a year's leave of absence, and will be employed by the Rural Rehabilitation and Resettlement Administration.

Dr. E. G. Misner, Cornell University, spent two months this fall in Ghent, Belgium, where he supervised a Farm Management survey.

Mr. M. P. Mitchell was appointed Extension Economist (Marketing) in the Farm Management Department at Purdue University, effective June 1, 1935.

Mr. Harry E. Moore completed his M. S. degree in Farm Management at Purdue University in August, 1935, and was appointed Extension Economist (Farm Management) at Purdue University, effective September 1.

Mr. O. A. Negaard, formerly assistant agricultural economist at South Dakota State Agricultural College, is now engaged in feed market news work in the Bureau of Agricultural Economics, at Washington, D.C.

Mr. P. K. Norris, of the Foreign Agricultural Service, Bureau of Agricultural Economics, completed his survey of cotton production in Mexico in September.

Mr. A. L. Prinsloo (M.S., Cornell University, 1935) has returned to South Africa, where he has a position with the Department of Agriculture.

Mr. Ford Quitslund (M.S., Cornell University, 1935) is now located at Presque Isle, Maine, with the National Fruit and Vegetable Exchange.

A. E. Richards, Agricultural Economist, Agricultural Economics Branch, Ottawa, is attending Cornell University this fall and winter. Mr. Richards has been granted authority under a departmental plan permitting transfer of projects to a university under stated conditions, to continue his work at Cornell.

Mr. Harold B. Rowe, author of "Tobacco and the AAA," recently published by the Brookings Institution, is now on leave of absence and is temporarily associated with the Division of Marketing Research of the Bureau of Agricultural Economics.

Professor H. E. Selby, Department of Farm Management at Oregon State College, has been granted leave of absence for one year to act as Chief of the Land Use Planning Section, Resettlement Administration, Region 11.

Dr. Geoffrey Shepherd of Iowa State College is spending the fall quarter in travel and study abroad, investigating livestock marketing in Denmark and the operation of agricultural marketing schemes in England.

Mr. N. J. Stanford has resigned as research assistant in agricultural economics at Tennessee Agricultural Experiment Station to accept an appointment as a farm management specialist with the Resettlement Administration.

Mr. Andrew Stewart, a graduate in agricultural economics, who has completed several years of post-graduate study at the University of Edinburgh, Scotland, has been appointed to the staff of the University of Alberta.

Dr. W. B. Stout, who has been in charge of the marketing extension work of the Farm Management Department at Purdue University, was granted a year's leave of absence beginning March 1, 1935, to serve as Senior Extension Economist (Marketing), with headquarters at Washington, D.C.

Mr. Paul E. Strickler, formerly research assistant in agricultural economics, Tennessee Experiment Station, has accepted a position with the Bureau of Labor Statistics, U. S. Department of Labor.

Mr. Carl R. Swinson from 1920 to 1933 a member of the staff of the Division of Farm Management and Costs, Bureau of Agricultural Economics, died suddenly at his home in McLean, Va., September 16, and was buried in Arlington Cemetery with military honors.

Mr. Edward J. Talbot (M.S., Cornell University, 1935) is with the St. Johnsbury Production Credit Association, St. Johnsbury, Vermont.

Dr. Carl C. Taylor was placed in charge of the Division of Farm Population and Rural Life, Bureau of Agricultural Economics, on October 1. He will continue his work with the Resettlement Administration.

Dr. C. C. Taylor, Foreign Agricultural Service, Bureau of Agricultural Economics, was transferred to London in August and will serve there as Agricultural Attache. Mr. E. A. Foley has been brought to Washington, D.C., headquarters.

Mr. H. B. Taylor has been appointed a half-time research assistant in the Department of Farm Management, Purdue University, effective July 1, 1935.

Dr. H. C. Taylor, Permanent Delegate of the United States to the International Institute of Agriculture at Rome came back for a series of conferences with officials of the Department of Agriculture and Department of State during August, returning August 28.

Dr. E. D. Tetreau, formerly Rural Research Analyst, Federal Emergency Relief Administration, is now Sociologist on the Experiment Station staff, University of Arizona.

Mr. H. R. Tolley has resigned as Assistant Administrator, Agricultural Adjustment Administration, and returned to his position as Director of the Giannini Foundation, University of California, Berkeley.

Dr. F. R. Tomlinson (Cornell University, 1933) has been transferred from the University of Stellenbosch, at Stellenbosch, South Africa, to the Division of Agricultural Economics in the Department of Agriculture, at Pretoria.

Mr. Charles A. Tosch, Jr., succeeded M. Taylor Matthews as Assistant Supervisor of Rural Research, Tennessee Agricultural Experiment Station, effective August 1.

Dr. H. R. Varney (Cornell University, 1935) is extension professor of marketing at the University of Vermont.

Mr. R. H. Wilcox has returned to his duties at the University of Illinois after a year's sabbatical leave spent at Cornell University.

Mr. Clair Wilkes has returned to the Department of Farm Management at Oregon State College as research assistant, having been engaged for some time in farming and Smith-Hughes agricultural teaching.

Mr. J. E. Wills of the College of Agriculture of the University of Illinois, is at present working at the Brookings Institution on the general subject of land utilization. The results of Mr. Wills' research in Washington will be incorporated in his doctor's thesis which deals with land utilization in Illinois.

Mr. E. B. Wilson has taken a position with the Resettlement Division of the Agricultural Adjustment Administration, and is now located in Denver, Colorado.

Mr. Elmer J. Working has accepted a position at the University of Illinois where he will be in charge of work in agricultural prices and statistics in the Department of Agricultural Economics. From 1928-35 Mr. Working has been a member of the Division of Statistical and Historical Research, Bureau of Agricultural Economics, specializing in grain price analysis and demand for agricultural products.

Mr. Leslie Wright, formerly of the Department of Agricultural Economics at the University of Illinois, is now with the Soil Conservation Service of the United States Department of Agriculture.

Dr. E. C. Young, Professor in Farm Management at Purdue University, was on leave during the summer of 1935 as special assistant to the governor of the Farm Credit Administration and was engaged in the study of the coordination of field activities of the Farm Credit Administration.

Mr. G. E. Young, research assistant in Farm Management, Purdue University, who has been on leave of absence during the past year, has been granted another year's leave to continue his work as Acting Chief, Land Use Planning Section, Region 3, Land Utilization Division, Resettlement Administration, with headquarters at Champaign, Illinois.

PROGRAM FOR TWENTY-SIXTH ANNUAL MEETING OF THE AMERICAN FARM ECONOMIC ASSOCIATION

COMMODORE HOTEL, NEW YORK
DECEMBER 27, 28 AND 30, 1935

FRIDAY, DECEMBER 27

FRIDAY FORENOON SESSION, 10:00 O'CLOCK

SUBJECT: *Research in Agricultural Economics*

Chairman: J. S. Davis, Stanford University

A Future Pattern for Research in Agricultural Economics
Eric Englund, Bureau of Agricultural Economics
Discussion Leader: F. F. Hill, Farm Credit Administration

Research in Agricultural Economics from the Standpoint of the States
T. W. Schultz, Iowa State College
Discussion Leader: F. P. Weaver, Pennsylvania State College

FRIDAY AFTERNOON SESSION, 3:00 O'CLOCK

JOINT SESSION WITH THE AMERICAN STATISTICAL ASSOCIATION

SUBJECT: *The Recovery Program and Agriculture*

Chairman: W. I. King, New York University

The Agricultural Adjustment Act and National Recovery
Chester C. Davis, Agricultural Adjustment Administration
Discussion Leader: J. D. Black, Harvard University

Fundamental Significance of the Agricultural Adjustment Concept
E. G. Nourse, The Brookings Institution
Discussion Leader: J. I. Falconer, Ohio State University

FRIDAY EVENING SESSIONS, 8:00 O'CLOCK

ROUND TABLE I, SUBJECT: *The Collection, Interpretation, and Publication of Agricultural Statistics*

Chairman: W. F. Callander, Agricultural Adjustment Administration

The 1934 Census—An Appraisal from the Viewpoint of Crop Estimates
Joseph A. Becker, Bureau of Agricultural Economics
Discussion Leader: Z. R. Pettet, Bureau of the Census

Some New Developments Designed to Extend the Scope and Improve the Accuracy of Agricultural Information
Asher Hobson, University of Wisconsin
Discussion Leader: M. R. Benedict, University of California

Some State Problems in Agricultural Statistics and the Relationship of State Work to the Federal Program
Walter H. Ebling, Agricultural Statistician, Wisconsin
Discussion Leader: R. L. Gillett, Agricultural Statistician, New York

ROUND TABLE II, SUBJECT: *Land Utilization*

Chairman: George S. Wehrwein, University of Wisconsin

Migration Required for Best Land Use
Bushrod W. Allin, Agricultural Adjustment Administration

Rural Zoning—Controlling Land Utilization Under the Police Power
C. I. Henderickson, Bureau of Agricultural Economics

Planning the Location of Hard Roads and Electric Lines as a Part of Land Utilization Studies
T. E. LaMont, Cornell University

ROUND TABLE III, SUBJECT: *Research in Marketing Fruits and Vegetables*

Chairman: N. L. Allen, National Fruit and Vegetable Exchange, Inc., New York
The Motor Truck in Relation to Fruit and Vegetable Marketing
M. P. Rasmussen, Cornell University
Discussion Leader: H. H. Bakken, University of Wisconsin
Consumer Demand for Fruits and Vegetables in New York City
Alexander Sturges, Bureau of Agricultural Economics
Discussion Leader: Earl R. French, The Atlantic Commission Company, New York
Research as a Basis for Economic Grades of Fruits and Vegetables
C. W. Houck, Ohio State University
Discussion Leader: W. G. Meal, Agricultural Adjustment Administration

SATURDAY, DECEMBER 28

Group Breakfasts at 7:30 o'clock

Cornell Group

E. A. Perregaux
F. A. Harper, in charge

Wisconsin Group

Henry Keller, Jr., in charge

Minnesota-Harvard Group

William G. Murray, in charge

SATURDAY FORENOON SESSION, 10:00 O'CLOCK

JOINT SESSION WITH NATIONAL ASSOCIATION OF TEACHERS OF MARKETING AND ADVERTISING

ROUND TABLE I, SUBJECT: *Marketing Agreements Under the Agricultural Adjustment Administration*

Chairman: Fred E. Clark, Northwestern University
Marketing Agreements—An Economic Analysis of Types and Features
Budd A. Holt, Agricultural Adjustment Administration
Discussion Leader: James E. Boyle, Cornell University
Administration and Enforcement of Marketing Agreements
H. E. Erdman, University of California
Discussion Leader: Porter Taylor, Agricultural Adjustment Administration
The Consumer and the Agricultural Adjustment Administration
Don S. Anderson, University of Wisconsin
Discussion Leader: Edward A. Duddy, University of Chicago

ROUND TABLE II, SUBJECT: *Research In Farm Management*

Chairman: W. I. Myers, Farm Credit Administration
A National Program of Farm Management Research
C. L. Holmes, Bureau of Agricultural Economics

Statistical Analysis in Farm Management Research
Stanley W. Warren, Cornell University
Farm Management Research in Relation to Agricultural Adjustment and Rehabilitation
P. L. Slagsvold, Montana State College

SATURDAY NOON SESSION, 12:30 O'CLOCK

JOINT MEETING WITH RURAL SECTION
AMERICAN SOCIOLOGICAL SOCIETY

SUBJECT: *Land Use Programs*

The Social and Economic Implications of a National Land Use Program
L. C. Gray, Resettlement Administration
Discussion Leaders: Carl C. Zimmerman, Harvard University; Noble Clark University of Wisconsin

SATURDAY AFTERNOON SESSIONS, 2:30 O'CLOCK

ROUND TABLE I, SUBJECT: *Research in Marketing Dairy Products*
Chairman: F. P. Weaver, Pennsylvania State College

What Has Been Done—A Classification and Summary of Research Projects in Dairy Marketing
S. C. Hudson, Canadian Department of Agriculture
Methods and Results of Research on Specific Problems in Dairy Marketing
Consumption and Demand
W. C. Waite, University of Minnesota
Costs of Distribution
Leland Spencer, Cornell University
Transportation
R. W. Bartlett, University of Illinois
What Should Be Done—Kinds of Marketing Research Best Suited to the Needs of the Dairy Industry
H. A. Ross, The Borden Company, New York

ROUND TABLE II, SUBJECT: *Progress and Problems in Regional Planning of Agriculture*
Chairman: H. R. Tolley, University of California
Progress and Problems in Regional Planning of Agriculture From the Standpoint of New England and the Middle Atlantic States
I. G. Davis, Connecticut State College
From the Standpoint of the Middle Western States
H. C. M. Case, University of Illinois
From the Standpoint of the Western States
E. A. Starch, Montana State College
From the Standpoint of the Southern States
G. W. Forster, North Carolina State College
From the National Standpoint
F. F. Elliott, Agricultural Adjustment Administration

JOINT SESSION WITH THE AMERICAN ASSOCIATION FOR LABOR LEGISLATION

ROUND TABLE III, SUBJECT: *Possibilities of Social Insurance for Workers on the Farm and in the Home.*

Chairman: Mary Anderson, Department of Labor

Farm Accidents
Earl G. Brown, Kansas State Board of Health

Accidents in the Home
Julien H. Harvey, National Safety Council

Progress of Social Insurance for Agricultural and Domestic Workers
Leifur Magnusson, International Labor Office

Discussion
Benjamin R. Andrews, Columbia University

SATURDAY EVENING SESSION, 8:00 O'CLOCK

SUBJECT: *Validity of the Fundamental Assumptions Underlying Agricultural Adjustment*

Chairman: B. H. Hibbard, University of Wisconsin

Papers to be prepared by
M. L. Wilson, Assistant Secretary of Agriculture
O. B. Jesness, University of Minnesota

Each of the above papers is to be circulated in advance of the meeting among those who are to participate in the discussion. Secretary Wilson and Professor Jesness each will present a brief summary of his paper. The question will then be open for discussion by the following and others. Each speaker participating in the discussion is limited to five minutes.

G. F. Warren, Cornell University
J. S. Davis, Stanford University
H. R. Tolley, University of California
O. C. Stine, Bureau of Agricultural Economics
J. F. Booth, Canadian Department of Agriculture
H. E. Erdman, University of California
J. D. Black, Harvard University
Don S. Anderson, University of Wisconsin

MONDAY, DECEMBER 30

BUSINESS MEETING, 9:00 A.M.

MONDAY FORENOON SESSION, 10:00 O'CLOCK

SUBJECT: *Trends in the Economics of American Agriculture*

Chairman: F. A. Pearson, Cornell University

Agricultural Adjustment and Farm Tenure
D .W. Watkins, Clemson Agricultural College of South Carolina

Production Control in Agriculture and Industry
M. R. Benedict, University of California

Agricultural Policy and the Economist
A. G. Black, Bureau of Agricultural Economics

MONDAY NOON, 12:30 O'CLOCK

ANNUAL LUNCHEON OF THE AMERICAN FARM ECONOMIC ASSOCIATION

TRANSPORTATION

(Consult your local railroad agent concerning holiday rates)

A reduced fare and one and one-third times the one-way tariff has been arranged on the Certificate Plan for members and dependent members of their families attending the meetings of the American Statistical Association, American Association for Labor Legislation, American Association of University Instructors in Accounting, American Association of University Teachers of Insurance, American Farm Economic Association, American Sociological Society, Association of Teachers and Business Law, Econometric Society, and National Association of Marketing Teachers, to be held at the Commodore Hotel, New York, N.Y., during the period December 26-31, 1935, and applying from the territories of the Central, Trunk Line, New England, Southeastern, Western, Southwestern, Trans-Continental, and Canadian (Eastern Lines) Passenger Associations.

The reduced fare will be effective only on condition that 100 or more certificates or return portions of round-trip tickets are filed with the validating officer at the registration desk.

The following directions must be strictly observed:

1. OBTAIN A CERTIFICATE WHEN BUYING YOUR GOING TICKET

Do not make the mistake of asking for a "receipt"; be sure to get a "Certificate Plan CERTIFICATE." Tickets at the regular one-way tariff fare for the going journey may be obtained on the following dates only—December 23 to 28, inclusive. Present yourself at the railroad station for ticket and certificate at least thirty minutes before the departure of your train. Certificates are not kept at all stations. If not obtainable at your home station, the agent will inform you at what station they can be obtained. You can in such case purchase a local ticket to the station which has certificates in stock, where you can purchase a through ticket and at the same time ask for and obtain a certificate to the place of meeting.

2. LEAVE CERTIFICATE AT CONVENTION REGISTRATION DESK (at the Commodore Hotel) IMMEDIATELY ON ARRIVAL AT THE MEETINGS

The reduced fare for the return journey will not apply unless your certificate is validated by the railroad agent and signed by the endorsing officer, Mr. A. T. Falk, Chairman, Joint Committee on Local Arrangements. A special agent of the railroad company will be in attendance to validate certificates.

3. CALL FOR VALIDATED CERTIFICATE BEFORE PURCHASING RETURN TICKET

If the necessary minimum of 100 certificates or a combination of certificates and round-trip tickets aggregating 100 is presented at the meeting and your certificate is duly validated by the Special Agent, you will be entitled, up to and including January 3, 1936, to purchase a return ticket via the same route over which you made the going journey, at one-third of the regular one-way first-class fare from the place of meeting to the point at which your certificate was issued.

Tickets so purchased will be good for return passage to reach original starting

point within 30 days in addition to date of sale of going ticket, as shown on the certificate.

No refund of fare will be made on account of failure to obtain proper certificate when purchasing going ticket, nor on account of failure to present validated certificate when purchasing return ticket.

Convention Rates Quoted by New York Hotels in the Grand Central Area, for Delegates Attending the December Meetings of the Social Science Societies

Commodore Hotel	$3.00 single room (a few at $2.50)
	$4.00 double room
Biltmore Hotel	$4.00 single room
	7.00 double room
Roosevelt Hotel	$4.00 single room
	6.00 double room
Lexington Hotel	$3.00 single room
	4.00 double room
Montclair Hotel	$2.50 single room
	3.50 double room
Shelton Hotel	$2.50 single room
	3.50 double room

INDEX TO VOLUME XVII
1935

SUBJECTS

A stepped price schedule for milk, 386
AAA as a force in recovery, 1
AAA as a force in recovery: Further considerations, 449
Acreage reduction and the displacement of farm labor, 522
Agricultural planning and farm management in the cotton belt, 539
Agricultural planning and farm management in the dairy regions, 562, 568
Agricultural planning and farm management in the range territory, 553
Agricultural planning and farm management in the wheat belt, 547
Agricultural protectionism. Comments on League of Nations report, 748
Annual reports, 203
Apple prices in the Annapolis Valley, Nova Scotia, 585
Appraisal methods of federal land banks, 469
Appraisal, research on problems of, 491

Books received, 177, 393, 589, 754
Book reviews, 179, 394, 590, 755
Butter, factors affecting consumption, 735

Canada, agricultural measures in, 76
Canada, natural products marketing act, 368
Changes in aggregate volume and distribution of purchasing power during recovery, 211
Citrus marketing agreements, 340
Comments on report on agricultural protectionism, 748
Competition and oligopoly, 575
Contacts of rural people in organization meetings, 583
Cooperative buying of farm supplies, 157
Cooperatives, economic trends, 741
Cooperatives, the pace-setters in agriculture, 153
Corn belt, planning and farm management, 529
Correct and incorrect methods of determining the effectiveness of the tariff, 625
Correct and incorrect methods of determining the effectiveness of the tariff. A reply to Professor Schultz, 642
Cotton belt, planning and farm management, 539
Courses for rural appraisers, 501
Creamery operating efficiency, 732
Credit, farm mortgage, 260
Credit, short term, 277
Crop and livestock estimates, 659
Dairy products, marketing agreements, 357
Dairy regions, planning and farm management, 562, 568
Development of the report of the appraisal committee of the national joint committee on rural credits, 481
Debt adjustments, 290
Direct marketing controversy, 738

Economic bases and objectives of public regulation of the milk industry, 101
Economic implications of erosion control, 433
Effect of agricultural planning on farm management in the corn belt, 529
Effect of tax rates on land values, 391
Erosion control, economic implications of, 433
Factors affecting butter consumption, 735
Factors affecting farm real estate values, 379
Farm debt adjustments, 290
Farm management and planning, 529, 539, 547, 553, 562
Farm mortgage credit situation in the United States, 260
Farm mortgages and the government, 613
Farm organization and budgetary data in land valuation, 579
Field of agricultural data, 659
Financing cooperatives, 167
Freight rates and minimum weight requirements in mixed vegetable shipments, 459

Hogs, processing tax on, 321

Incidence of the processing tax on hogs, 321
Intensity of land use and the resettlement problem in Missouri, 409
Italy, National Institute of Agricultural Economics, 646

Labor, displacement by acreage reduction, 522
Land, report of National Resources Board, 39
Land, program for submarginal, 55
Land use planning and ownership, 423
Land utilization and land division, 702
Land valuation, use of farm organization and budgetary data, 579
Local government in a rural area, 375

Marketing act, Canada, 368
Marketing agreements, citrus, 340
Marketing agreements for dairy products, 357
Marketing agreements for vegetables and fruits, 349
Measures for the relief and rehabilitation of agriculture in Canada, 76
Milk, a stepped price schedule, 386
Milk, bases and objectives of public regulation, 101

Milk control, outlook for future, 133, 140, 144, 149
Milk control experience—results and problems of federal and state regulation, 109
Monetary policy and prices, 219
Mortgages, farm and the government, 613

National Institute of Agricultural Economics in Italy, 646
News items, 200, 406, 610, 773
Notes, 176, 375, 575
Nova Scotia, apple prices, 585

Outlook for future development in milk control, 133, 140, 144, 149
Ownership and land use planning, 423

Part-time farming in Twin City area, 383
Part-time farming near industrial areas, 67
Planning, control and research in agriculture after recovery, 20
Price, a stepped schedule for milk, 386
Prices, and monetary policy, 219
Prices, butter, 735
Problems of creamery operating efficiency in California, 732
Processing taxes and problems raised by them, 307
Processing taxes, on hogs, 321
Program for annual meeting, 783
Program of rural rehabilitation of the FERA, 89
Program of the Federal Government for the purchase and use of submarginal land, 55
Public utility control of milk in Winnipeg, 588
Purchasing power, changes in during recovery, 211
Range territory, planning and farm management, 553
Real estate, factors affecting values, 379
Recent economic trends of concern to Midwest cooperatives, 741
Recovery, governmental measures, 240
Recovery, the AAA as a force in, 1, 449
Regulation of marketing of fruits and other natural products in Canada, 368
Report on land of the National Resources Board, 39
Research on rural appraisal problems, 491
Resettlement and intensity of land use, 409
Results of governmental attempts to foster recovery, 240
Rural rehabilitation of the FERA, 89

Short term credit situation in the United States, 277
Significance of ownership pattern to land use planning, 423
Social and economic significance of subsistence homesteads, 720
Social effects of land division in relationship to a program of land utilization, 702
Social effects of purchasing submarginal land in the great plains, 513
Studies of local government as an approach to question of farm taxation, 682
Submarginal land, program for, 55
Submarginal land, purchase of, 513
Subsistence homesteads, 720

Tariff effectiveness, a reply to Professor Schultz, 642
Tariff effectiveness, methods of determining, 625
Tax relief through rational expenditure control, 669
Taxation, studies of local government and, 682
The subsistence homesteads program, 710

Vegetable shipments, freight rates and weight requirements, 459

Wheat belt, planning and farm management, 547

AUTHORS

(Articles are indicated by asterisk *)

Allen, Edward D.
See Book reviews, 601
Allen, William
Farm debt adjustments (discussion), 300
Babcock, H. E.
*Cooperatives, the pace-setters in agriculture, 153
Baldwin, Wilbur
See Garey, L. F.
Ballinger, Roy A.
See Book reviews, 195
Benedict, M. R.
See Book reviews, 596
Bestor, Paul
Farm debt adjustments (discussion), 302
Black, John D.
*Planning, control and research in agriculture after recovery, 20
Blough, J. Roy
The incidence of the processing tax on hogs (discussion), 334
Bond, M. C.
*Outlook for future development in milk control, 144
Booth, J. F.
*Measures for the relief and rehabilitation of agriculture in Canada, 76

Bradley, Clifton J.
Local government in a rural area, 375
Bronson, Wesley H.
*Outlook for future development in milk control, 140
Burns, Arthur Robert
Results of governmental attempts to foster recovery (discussion), 249
Burr, Hudson
*Development of the report of the appraisal committee of the national joint committee on rural credits, 481
Case, H. C. M.
*Farm debt adjustments, 290
Catherwood, M. P.
*Studies of local government as an approach to question of farm taxation, 682
Cavert, W. L.
Effect of tax rates on land values, 391
Clayton, C. F.
*Program of the Federal Government for the purchase and use of submarginal land, 55
Collins, C. M.
Apple prices in the Annapolis Valley, Nova Scotia, 585
Corbett, R. B.
*Milk control experience—results and problems of federal and state regulation, 109
Cox, R. W.
See Book reviews, 397
Davis, Joseph S.
*AAA as a force in recovery, 1
See Book reviews, 179
Dowell, A. A.
See Book reviews, 755
Dummeier, E. F.
See Book reviews, 196
Ebling, Walter H.
*Field of agricultural data, 659
Erdman, H. E.
See Book reviews, 765
Ezekiel, Mordecai
AAA as a force in recovery (discussion), 14
Filley, H. C.
See Book reviews, 193
Gaddis, P. L.
*Appraisal methods of federal land banks, 469
Galbraith, J. K.
See Book reviews, 184
Garey, L. F., and Wilbur Baldwin
Part-time farming in Twin City area, 383
Gaumnitz, E. W.
*Outlook for future development in milk control, 133
Gee, Wilson
*Acreage reduction and the displacement of farm labor, 522
Grant, H. C.
*Outlook for future development in milk control, 149
*Public utility control of milk in Winnipeg, 588
Grimes, W. E.
*Agricultural planning and farm management in the wheat belt, 547
Planning, control and research in agriculture after recovery (discussion), 37
Hammar, Conrad, and James H. Muntzel
*Intensity of land use and the resettlement problem in Missouri, 409
Studies of local government as an approach to question of farm taxation (discussion), 693
See Book reviews, 185
Hibbard, Benjamin H.
See Book reviews, 590
Hinrichs, A. F.
See Book reviews, 194, 608
Hobson, Asher
See Book reviews, 605
Hood, Kenneth
*Part-time farming near industrial areas, 67
Hopper, W. C.
*Regulation of marketing of fruits and other natural products in Canada, 368
Hudelson, Robert
*Courses for rural appraisers, 501
Johnson, E. C
*Short term credit situation in the United States, 277
Johnston, P. E.
*Effect of agricultural planning on farm management in the corn belt, 529
Kendrick, M. Slade
*Processing taxes and problems raised by them, 307
King, W. I.
*Results of governmental attempts to foster recovery, 240
Kirkpatrick, E. L.
See Book reviews, 403
Klemmedson, G. S.
Studies of local government as an approach to question of farm taxation (discussion), 695
Landis, Paul H.
*Social effects of purchasing submarginal land in the great plains, 513
Lattimer, J. E.
See Book reviews, 394
Laur, E.
Comments on report on agricultural protectionism, 748
Lauterbach, A. H.
*Marketing agreements for dairy products, 357
Lundy, Gabriel
See Book reviews, 395
Lutz, Harley L.
*Tax relief through rational expenditure control, 669
Marget, A. W.
Monetary policy and prices (discussion), 234
See Book reviews, 756

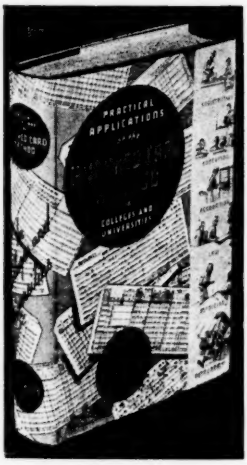
McIsaac, A. M.
A stepped price schedule for milk, 386
McKay, A. W.
*Citrus marketing agreements, 340
Mendum, S. W.
See Book reviews, 198
Mortenson, W. P.
See Book reviews, 770
Muntzel, James H.
See Hammar, Conrad H.
Murray, William G.
*Farm mortgages and the government, 613
*Research on rural appraisal problems, 491
Myers, Lawrence
Processing taxes and problems raised by them (discussion), 317
Netherland, Wood
Short term credit situation in the United States (discussion), 285
Nicholls, W. D.
Program for the purchase and use of submarginal land (discussion), 63
Nickell, Paulena
See Book reviews, 188
Noble, C. V.
Citrus marketing agreements (discussion), 347
Oyler, Merton
Contacts of rural people in organization meetings, 583
Patton, Harald S.
See Book reviews, 760
Paulson, W. E.
*Freight rates and minimum weight requirements in mixed vegetable shipments, 459
Pearson, F. A.
See Warren, G. F.
Peterson, Arthur G.
See Book reviews, 190
Pond, George A.
*Agricultural planning and farm management in dairy regions, 562
See Book reviews, 187
Renne, Roland R.
Correct and incorrect methods of determining the effectiveness of the tariff. A reply to Professor Schultz, 642
*Significance of ownership pattern to land use planning, 423
Reynolds, Quentin
*Cooperative buying of farm supplies, 157
Roberts, John B.
Factors affecting butter consumption, 735
Robotka, Frank
Recent economic trends of concern to midwest cooperatives, 741
See Book reviews, 767
Sanderson, Dwight
See Book reviews, 603
Saunderson, M. H.
Farm organization and budgetary data in land valuation, 579
Saville, R. J.
*Agricultural planning and farm management in the cotton belt, 539
Schickele, Rainer
*Economic implications of erosion control, 433
Schultz, Henry
*Correct and incorrect methods of determining the effectiveness of the tariff, 625
Schultz, T. W.
AAA is a force in recovery (discussion), 17
Serpieri, Arrigo
*National Institute of Agricultural Economics in Italy, 646
Shepherd, Geoffrey S.
Competition and oligopoly, 575
*Incidence of the processing tax on hogs, 321
Smith, T. Lynn
*Social effects of land division in relationship to a program of land utilization, 702
Steele, H. B.
Milk control experience (discussion), 121
Stine, O. C.
*Changes in aggregate volume and distribution of purchasing power during recovery, 211
Taylor, Carl C.
*Social and economic significance of subsistence homesteads, 720
Thomsen, F. L.
Direct marketing controversy, 738
Factors affecting farm real estate values, 379
Tinley, J. M.
Problems of creamery operating efficiency in California, 732
Tolley, H. R.
Planning, control and research in agriculture after recovery (discussion), 35
Vaile, Roland S.
See Book reviews, 763
Vass, A. F.
*Agricultural planning and farm management in the range territory, 553
Waite, W. C.
*Economic bases and objectives of public regulation of the milk industry, 101
See Book reviews, 182
Waller, A. G.
*Agricultural planning and farm management in dairy regions, 568
Ward, Gordon H.
See Book reviews, 191
Warren, G. F., and F. A. Pearson
*Monetary policy and prices, 219
Wehrwein, G. S.
Report of the National Resources Board on land use (discussion), 50
See Book reviews, 593

Wellman, H. R.
*Marketing agreements for vegetables and fruits, 349
Wells, J. E., Jr.
*Financing cooperatives, 167
Wentworth, W. A.
Marketing agreements for dairy products (discussion), 362
Westbrook, Lawrence
*Program of rural rehabilitation of the FERA, 89
Westbrook, S. F.
Farm mortgage credit situation in the United States (discussion), 260
Whittlesey, C. R.
See Book reviews, 396
Wilcox, Walter W.
*AAA as a force in recovery: Further considerations, 449
Williams, Miss A. V.
See Book reviews 607
Wilson, M. L.
*Report on land of the National Resources Board, 39
Working, E. J.
See Book reviews, 399
Young, E. C.
*Farm mortgage credit situation in the United States, 260
Young, H. P.
Milk control experience (discussion), 126
Zeuch, Wm. E.
*The subsistence homesteads program, 710

BOOK REVIEWS

(Reviewer's name in parentheses)

Blakey, Gladys C.: *A history of taxation in Minnesota* (Roy A. Ballinger), 195
Cotta, Freppel: *Agricultural cooperation in Fascist Italy* (Asher Hobson), 605
Davis, J. S.: *Pacific Northwest wheat problems and the export subsidy* (E. F. Dummeier), 196
Doddy, Edward A., and David A. Revzan: *The grain supply of the Chicago market* (Frank Robotka), 767
Dummeier, E. F., and R. B. Heflebower: *Economics with applications to agriculture* (Conrad H. Hammar), 185
Fagan, Elmer D., and C. Ward Macy, editors: *Public Finance* (Edward D. Allen), 601
Farnsworth, Helen C.: *Decline and recovery of wheat prices in the nineties* (Arthur G. Peterson), 190
Fippin, Elmer O.: *First principles of cooperation in buying and selling in agriculture* (A. F. Hinrichs), 194
Hambidge, Gove: *Your meals and your money* (Paulena Nickell), 188
Heaton, Herbert: *The British way to recovery* (J. E. Lattimer), 394
Hoffer, Charles R.: *Introduction to rural sociology* (E. L. Kirkpatrick), 403
Holtzclaw, Henry F.: *The principles of marketing* (W. P. Mortenson), 770
Hubbard, Joseph B., editor: *Current economic policies* (A. V. Williams), 607
International economic relations (C. R. Whittlesey), 396
International Institute of Agriculture: *Farm accountancy. Statistics for 1930-1931* (S. W. Mendum), 198
Jesness, Oscar B., Reynolds I. Nowell and Associates: *A Program for land use in Northern Minnesota* (George S. Wehrwein), 593
Johnson, Sherman: *Wheat under the agricultural adjustment act* (H. C. Filley), 193
Land utilization in Minnesota (George S. Wehrwein), 593
Leven, Maurice, Harold G. Moulton and Clark Warburton: *America's capacity to consume* (W. C. Waite), 182
Lininger, F. F.: *Dairy products under the agricultural adjustment act* (Gordon H. Ward), 191
Lyon, Leverett S., and others: *The National Recovery Administration* (Roland S. Vaile), 763
Moulton, Harold G.: *The Formation of Capital* (Arthur W. Marget), 756
Myers, William I.: *Farm credit administration* (Gabriel Lundy), 395
Nourse, E. G., and associates: *America's capacity to produce* (J. S. Davis), 179
Prices of cash wheat and futures at Chicago since 1883 (R. W. Cox), 397
Renne, Ronald R.: *The tariff on dairy products* (H. E. Erdman), 765
Sering, Max: *Deutsche Agrarpolitik* (A. F. Hinrichs), 608
Schultz, Theodore W.: *The tariff on barley, oats and corn* (H. E. Erdman), 765
Taylor, Alonzo E.: *The New Deal and foreign trade* (A. A. Dowell), 755
Timoshenko, Vladimir P.: *World agriculture and the depression* (E. J. Working), 399
Tugwell, Rexford Guy: *The battle for democracy* (M. R. Benedict), 596
Wallace, Henry A.: *New Frontiers* (B. H. Hibbard), 590
Willcox, O. W.: *Reshaping agriculture* (George A. Pond), 187
Willis, H. Parker, and John S. Chapman: *Economics of Inflation* (Harald S. Patton), 760
Young, R. A.: *The new monetary system of the United States* (J. K. Galbraith), 184
Zimmerman, Carle C., and Merle E. Frampton: *Family and society* (Dwight Sanderson), 603



10 separate sections.
442 Pages. Price
$4.50

SPEED and ACCURACY for Agricultural Research

Here is the most detailed and authorative treatise on the punched card method of obtaining accounting and statistical information ever published. This volume is filled with time-saving and money-saving procedures concerning Alphabetic Indexing, Preparation of Statistical Tables, Multuple Correlation, Accounting Records, Budgetary Control and many other subjects. It is profusely illustrated with photographs of machines, card forms and records. It shows charts and various types of coding tables.

Chapters on Agricultural Research Include:

Animal and Plant Breeding .....
.....*by A. E. Brandt and Marjorie McCrabb*
Agricultural Economics in General ..*by M. S. Parsons*
Problems of Farm Management .....*by Frank Joyce*
Forestry Research Applications ...*Philip R. Wheeler*
Summarizing Farm Contest Rules .....*A. E. Brandt*

Columbia University Press

2960 Broadway Box A625 New York, N. Y.

BROOKINGS INSTITUTION PUBLICATIONS

WHEAT AND THE AAA

By JOSEPH STANCLIFFE DAVIS

This book contains a detailed analysis of the adjustment program for wheat that was evolved under the AAA. The concluding chapters deal with the early results of the program, attitudes with reference to it, and official plans for the future. Price, $3.00.

TOBACCO UNDER THE AAA

By HAROLD B. ROWE

An analysis of the various features of the tobacco program and appraisal of the results obtained in 1933 and 1934 in relation to the objectives sought. On the basis of this appraisal some longer term possibilities and limitations are considered. Price, $2.50.

THE DAIRY INDUSTRY AND THE AAA

By JOHN D. BLACK

An outline of conditions in the dairy industry in the period between the World War and the Great Depression, and in the spring of 1933. The book traces the varying fortunes of the fluid milk program to June 1935 and describes the experience of the industry in attempting to develop marketing agreements. Chapters are devoted to the problem of production control in the dairy industry and the efforts to provide for them under the Adjustment Act as well as alternative methods of public control. Price, $3.00.

LIVESTOCK UNDER THE AAA

By D. A. FITZGERALD

The entire livestock program of the AAA discovered by this report which shows how the program was administered, what problems its administrators have encountered, indicates what changes appear in prospect as a result of experience to date, and finally suggests possibilities and limitations of this kind of economic planning. Price, $2.50.

MARKETING AGREEMENTS UNDER THE AAA

By EDWIN G. NOURSE

A detailed analysis of administrative problems and the difficulties of enforcement, including analysis of decisions of the lower courts in AAA cases and the implications of the United States Supreme Court's decisions in certain analogous cases which have come to it under the NIRA. The effects of agreements and licenses on market practices and price structure are examined and the program appraised. Price, $2.50.

COTTON AND THE AAA

By HENRY I. RICHARDS

A comprehensive picture of the entire cotton program of the AAA. The book shows how the program has been carried out, how the various phases of it are interrelated, appraises the results obtained thus far, and indicates some of its longer term possibilities and limitations. Price, $2.50 (For November Publication)

Order from

BROOKINGS INSTITUTION · WASHINGTON

GEORGE BANTA PUBLISHING COMPANY, MENASHA, WISCONSIN